FCC TEST REPORT

REPORT NO.:	RF971117H03
MODEL NO.:	RTU7305 BG1/3 HMC V2C
RECEIVED:	Nov. 17, 2008
TESTED:	Nov. 21 ~ Dec. 09, 2008
ISSUED:	Dec. 17, 2008

APPLICANT:	Realtek Semiconductor Corp.
ADDRESS:	No. 2, Innovation Road II, Hsinchu Science Park, Hsinchu 300, Taiwan
ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
LAB ADDRESS:	No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou Hsiang, Taipei Hsien 244, Taiwan, R.O.C.
TEST LOCATION:	No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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1. CERTIFICATION

PRODUCT:	UWB BG13 HMC
MODEL:	RTU7305 BG1/3 HMC V2C
BRAND:	Realtek
APPLICANT:	Realtek Semiconductor Corp.
TESTED:	Nov. 21 ~ Dec. 09, 2008
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	**FCC Part 15, Subpart F (Section 15.519)**
	ANSI C63.4-2003

The above equipment (model: RTU7305 BG1/3 HMC V2C) have been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : _____ , **DATE:** Dec. 17, 2008
Rennie Wang / Supervisor

TECHNICAL ACCEPTANCE : _____ , **DATE:** Dec. 17, 2008
Responsible for RF
Long Chen / Senior Engineer

APPROVED BY : _____ , **DATE:** Dec. 17, 2008
Gary Chang / Assistant Manager

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart F			
Standard Section	**Test Type and Limit**	**Result**	**REMARK**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -5.71dB at 0.201MHz.
15.519(b)	UWB Bandwidth	PASS	Meet the requirement of limit.
15.209 15.519(c)	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -1.00dB at 6927.20MHz.
15.209 15.519(d)	Radiated Emissions in GPS Band	PASS	Meet the requirement of limit. Minimum passing margin is -20.96dB at 1212.50MHz.
15.519(e)	Peak Emissions within a 50MHz Bandwidth	PASS	Meet the requirement of limit. Minimum passing margin is -4.89dB at 4092.00MHz.

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.34 dB
	200MHz ~1000MHz	3.35 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	UWB BG13 HMC
MODEL NO.	RTU7305 BG1/3 HMC V2C
FCC ID	TX2RTU7305BG13HMC
POWER SUPPLY	5.0Vdc from host equipment
MODULATION TECHNOLOGY	Multi-band OFDM
FREQUENCY RANGE	3.1 to 4.8GHz, 6.3 to 8.0GHz (Supporting up to 3 MBOA sub-bands, 528MHz each)
MAXIMUM OUTPUT POWER	-19.41dBm (75.79dBuV/m) for Band Group 1 -19.69dBm (75.51dBuV/m) for Band Group 3
ANTENNA TYPE	Refer to NOTE 1
I/O PORTS	USB
DATA CABLE	NA
ACCESSORY DEVICES	NA

NOTE:

1. The following antennas are used in this EUT.

NO.	BRAND	MODEL	TYPE	GAIN (dBi)	CONNECTOR
1	TOSHIBA	TSG002	Monopole	4.87	I-PEX : 20312-011R-10 or equivalent connector
2	TAIYO YUDEN	AH086M555003-T	Chip	2.30	I-PEX : 20312-011R-10 or equivalent connector
3	Fujitsu	CP313580-01	Inverted F	3.44	50 ohm Coaxial Length : 500mm Diameter : 1.13mm Connector : U.FL

2. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.1.1. TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

Four transmission modes of each band group are provided to this EUT.

BAND GROUP	MODE	SUB-BAND	FREQUENCY (MHz)
1	1	1	3432
	2	2	3960
	3	3	4488
	4	**1 + 2 + 3**	**3432, 3960, 4488**
3	5	1	6600
	6	2	7128
	7	3	7656
	8	**1 + 2 + 3**	**6600, 7128, 7656**

NOTE: After pre-testing each mode, the mode 4 & 8 (TCF3, 53.3Mbps) was the worst situation and only the data was presented in the following sections.

EUT configure mode	Applicable to					Description
	PLC	RE<1G	RE≥1G	UB	PE	
A	√	√	√	√	√	TOSHIBA antenna, BG1
B	√	√	√	√	√	TOSHIBA antenna, BG3
C	√	√	√	√	√	TAIYO YUDEN antenna, BG1
D	√	√	√	√	√	TAIYO YUDEN antenna, BG3
E	√	√	√	√	√	Fujitsu antenna, BG1
F	√	√	√	√	√	Fujitsu antenna, BG3

Where **PLC:** Power Line Conducted Emission
RE≥1G: Radiated Emission above 1GHz
PE: Peak Emission
RE<1G: Radiated Emission below 1GHz
UB:UBW Bandwidth

POWER LINE CONDUCTED EMISSION TEST:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	TESTED SUB-BAND	MODULATION TECHNOLOGY
A ~ F	1 + 2 + 3	MOFDM

RADIATED EMISSION TEST (BELOW 960 MHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	TESTED SUB-BAND	MODULATION TECHNOLOGY	AXIS
A, B	1 + 2 + 3	MOFDM	Z
C, D	1 + 2 + 3	MOFDM	Y
E, F	1 + 2 + 3	MOFDM	Y

RADIATED EMISSION TEST (ABOVE 960 MHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	TESTED SUB-BAND	MODULATION TECHNOLOGY	AXIS
A, B	1 + 2 + 3	MOFDM	Z
C, D	1 + 2 + 3	MOFDM	Y
E, F	1 + 2 + 3	MOFDM	Y

UWB BANDWIDTH MEASUREMENT:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	TESTED SUB-BAND	MODULATION TECHNOLOGY
A ~ F	1 + 2 + 3	MOFDM

PEAK EMISSION MEASUREMENT

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	TESTED SUB-BAND	MODULATION TECHNOLOGY	AXIS
A, B	1 + 2 + 3	MOFDM	Z
C, D	1 + 2 + 3	MOFDM	Y
E, F	1 + 2 + 3	MOFDM	Y

3.2 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a UWB product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart F (15.519)

ANSI C63.4-2003

THE EVOLUTION OF MODERN UWB TECHNOLOGY

All test items have been performed and recorded as per the above standards.

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.3 DESCRIPTION OF SUPPORT UNITS

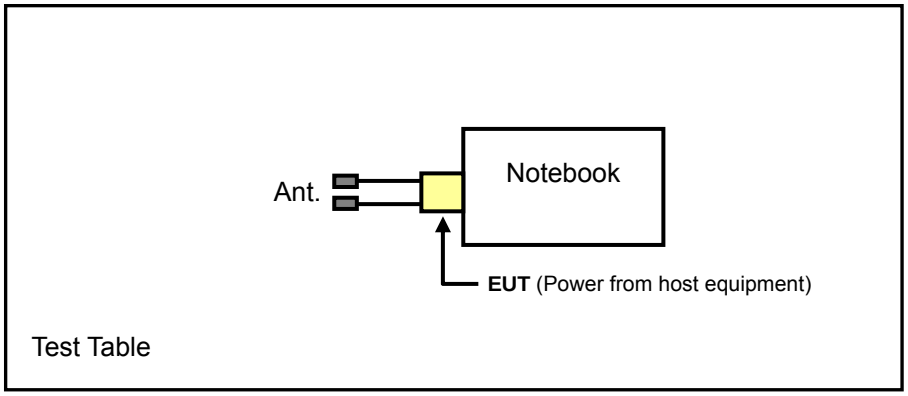
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK COMPUTER	Asus	A8H	NA	FCC DoC Approved

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA

NOTE:
1. All power cords of the above support units are non-shielded (1.8m).
2. Item 1 was provided by Client.

CONFIGURATION OF SYSTEM UNDER TEST



3.4 OPEARTIONAL LIMIATIONS

FCC 47 CFR Section 15.519(a)(1)

(1) A UWB device operating under the provisions of this section shall transmit only when it is sending information to an associated receiver. The UWB intentional radiator shall cease transmission within 10 seconds unless it receives an acknowledgement from the associated receiver that its transmission is being received. An acknowledgment of reception must continue to be received by the UWB intentional radiator at least every 10 seconds or the UWB device must cease transmitting.

Client has been advised and showed on users manual.

FCC 47 CFR Section 15.519(a)(2)

(2) The use of antennas mounted on outdoor structures, *e.g.*, antennas mounted on the outside of a building or on a telephone pole, or any fixed outdoors infrastructure is prohibited. Antennas may be mounted only on the hand held UWB device.

The antennas used in this product are Monopole, Chip and Inverted F antennas. These antennas will not be used and mounted on fixed outdoor structures.

FCC 47 CFR Section 15.519(a)(3)

(3) UWB devices operating under the provisions of this section may operate indoors or outdoors.

4. TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1. LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15-0.5 0.5-5 5-30	66 to 56 56 60	56 to 46 46 50

NOTE:
1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.1.2. TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCS30	100288	Sep. 22, 2008	Sep. 21, 2009
RF signal cable Woken	5D-FB	Cable-HYCO2-01	Jan. 04, 2008	Jan. 03, 2009
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Jan. 10, 2008	Jan. 09, 2009
LISN ROHDE & SCHWARZ	ESH3-Z5	100311	Jul. 30, 2008	Jul. 29, 2009
Software ADT	ADT_Cond_ V7.3.6	NA	NA	NA

NOTE:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Shielded Room 2.
3. The VCCI Site Registration No. is C-2047.

4.1.3. TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

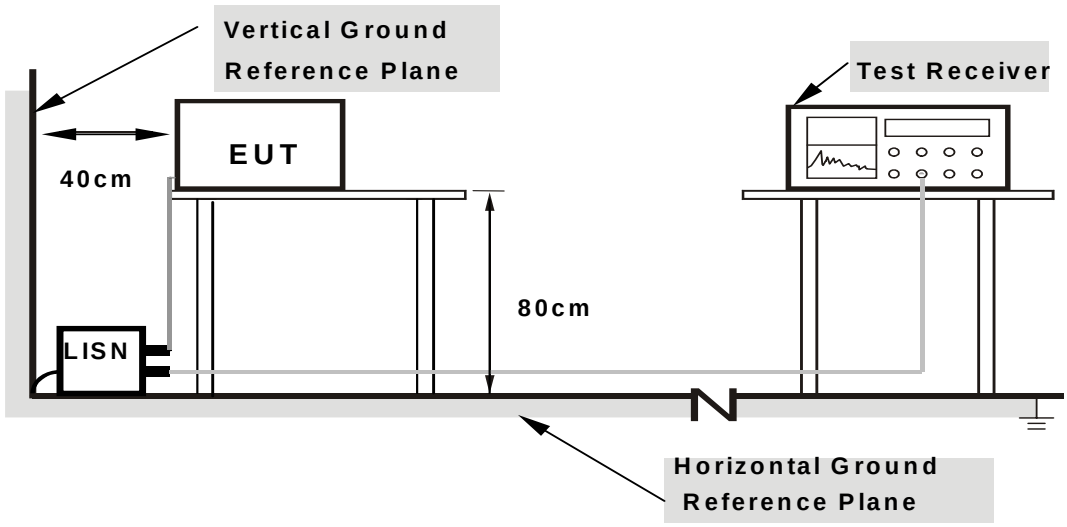
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150kHz to 30MHz was searched. Emission levels under Limit - 20dB was not recorded.

4.1.4. DEVIATION FROM TEST STANDARD

No deviation

4.1.5. TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6. EUT OPERATING CONDITIONS

a. Connected the EUT to notebook and placed on a testing table.
b. The notebook ran a test program (provided by manufacturer) to enable EUT under transmission condition continuously at specific channel frequency.

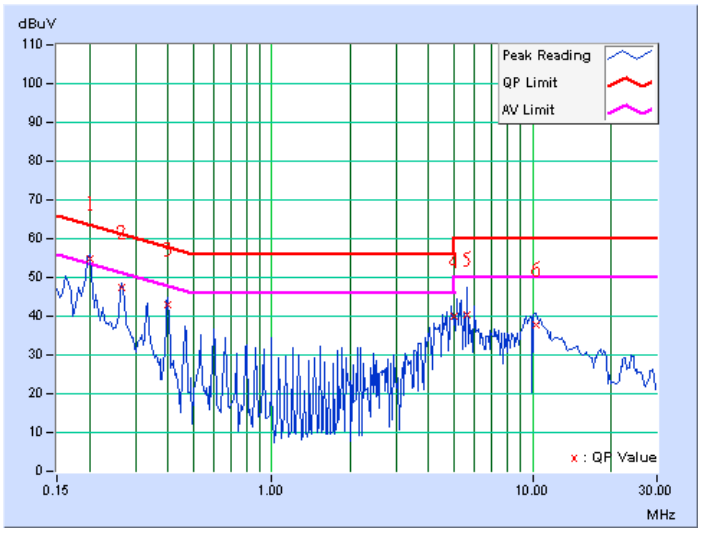
4.1.7. TEST RESULTS

CONDUCTED WORST-CASE DATA

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	PHASE	Line 1
MODULATION TECHNOLOGY	MOFDM	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 68 %RH, 998hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Antony Lee	TEST MODE	A

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.13	54.08	46.69	54.21	46.82	63.58	53.58	-9.37	-6.76
2	0.267	0.13	46.87	-	47.00	-	61.20	51.20	-14.20	-
3	0.400	0.14	42.16	-	42.30	-	57.85	47.85	-15.55	-
4	4.988	0.47	39.23	-	39.70	-	56.00	46.00	-16.30	-
5	5.586	0.49	39.82	-	40.31	-	60.00	50.00	-19.69	-
6	10.375	0.64	37.01	-	37.65	-	60.00	50.00	-22.35	-

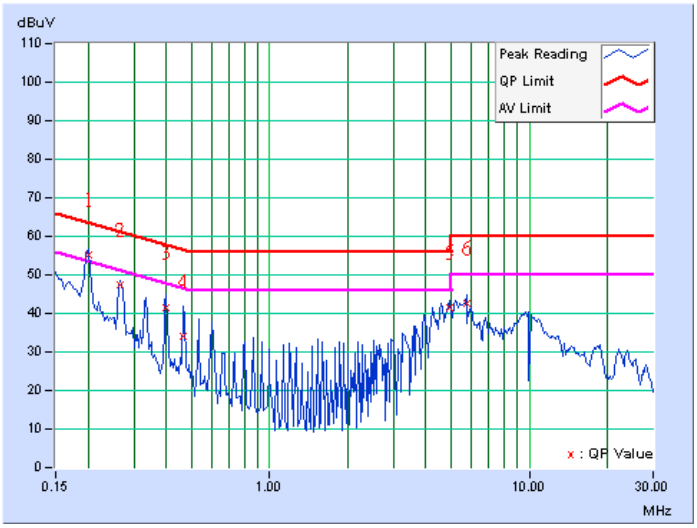
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	PHASE	Line 2
MODULATION TECHNOLOGY	MOFDM	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 68 %RH, 998hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Antony Lee	TEST MODE	A

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.14	54.66	47.18	54.80	47.32	63.58	53.58	-8.78	-6.26
2	0.267	0.14	46.81	-	46.95	-	61.20	51.20	-14.25	-
3	0.400	0.15	41.02	-	41.17	-	57.85	47.85	-16.68	-
4	0.463	0.15	33.67	-	33.82	-	56.65	46.65	-22.82	-
5	4.922	0.45	40.83	-	41.28	-	56.00	46.00	-14.72	-
6	5.719	0.47	41.94	-	42.41	-	60.00	50.00	-17.59	-

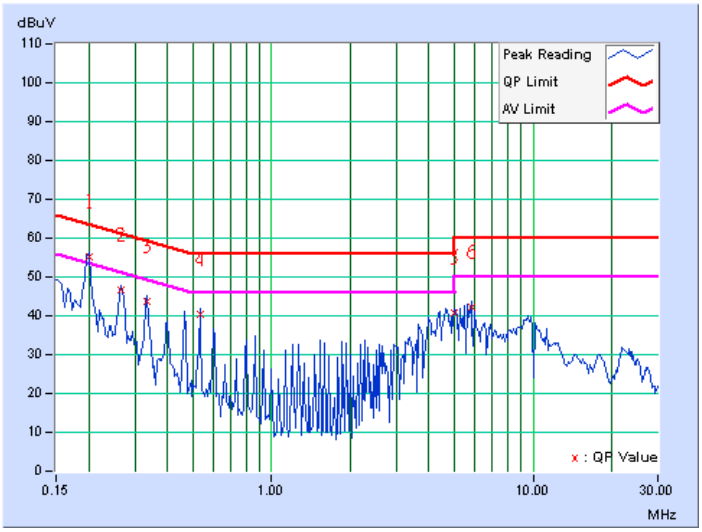
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	PHASE	Line 1
MODULATION TECHNOLOGY	MOFDM	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 68 %RH, 998hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Antony Lee	TEST MODE	B

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.13	54.69	47.42	54.82	47.55	63.58	53.58	-8.76	-6.03
2	0.267	0.13	46.10	-	46.23	-	61.20	51.20	-14.97	-
3	0.334	0.14	43.25	-	43.39	-	59.36	49.36	-15.97	-
4	0.533	0.15	39.87	-	40.02	-	56.00	46.00	-15.98	-
5	4.992	0.47	40.31	-	40.78	-	56.00	46.00	-15.22	-
6	5.789	0.49	41.73	-	42.22	-	60.00	50.00	-17.78	-

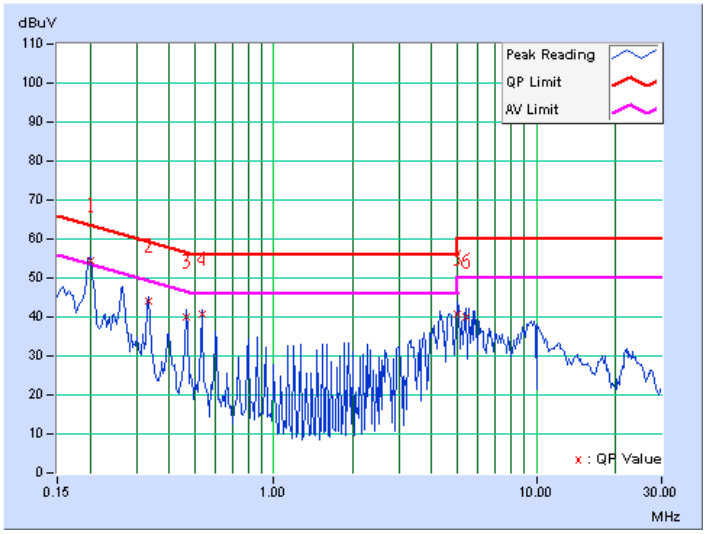
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	PHASE	Line 2
MODULATION TECHNOLOGY	MOFDM	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 68 %RH, 998hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Antony Lee	TEST MODE	B

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.14	53.93	47.02	54.07	47.16	63.58	53.58	-9.51	-6.42
2	0.334	0.15	43.56	-	43.71	-	59.36	49.36	-15.65	-
3	0.466	0.15	39.44	-	39.59	-	56.58	46.58	-16.98	-
4	0.533	0.16	40.19	-	40.35	-	56.00	46.00	-15.65	-
5	4.988	0.45	40.43	-	40.88	-	56.00	46.00	-15.12	-
6	5.391	0.46	39.49	-	39.95	-	60.00	50.00	-20.05	-

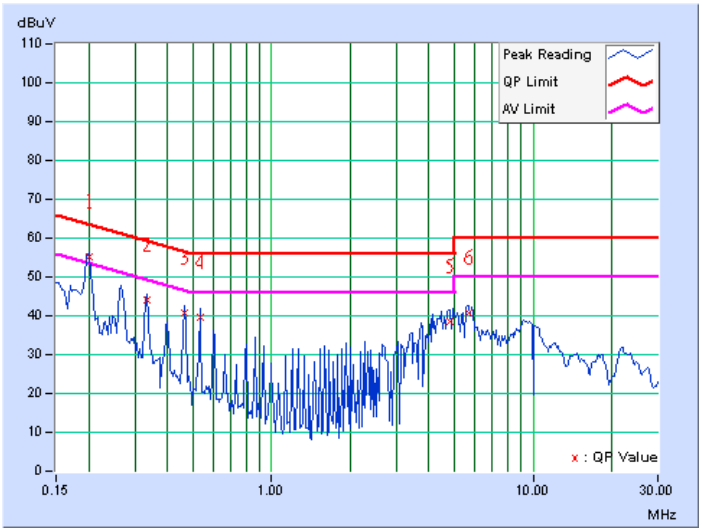
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	PHASE	Line 1
MODULATION TECHNOLOGY	MOFDM	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 68 %RH, 998hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Antony Lee	TEST MODE	C

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.13	54.60	47.65	54.73	47.78	63.58	53.58	-8.85	-5.80
2	0.334	0.14	43.74	-	43.88	-	59.36	49.36	-15.48	-
3	0.466	0.14	40.28	-	40.42	-	56.58	46.58	-16.15	-
4	0.533	0.15	39.20	-	39.35	-	56.00	46.00	-16.65	-
5	4.785	0.46	37.94	-	38.40	-	56.00	46.00	-17.60	-
6	5.652	0.49	40.33	-	40.82	-	60.00	50.00	-19.18	-

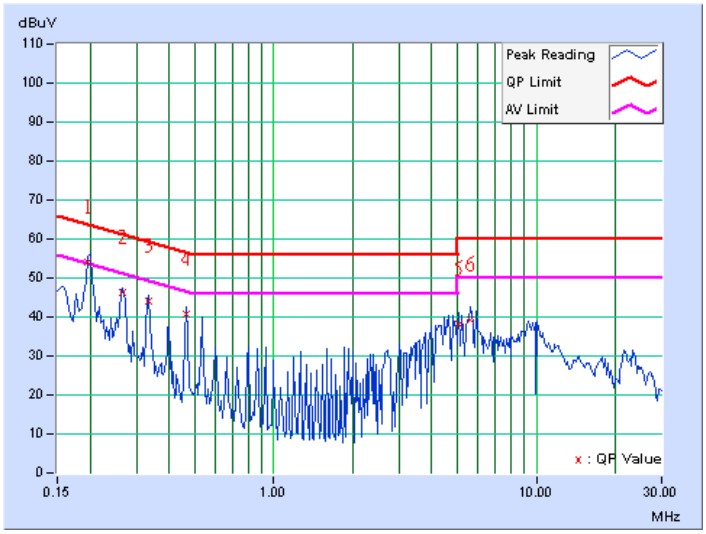
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	PHASE	Line 2
MODULATION TECHNOLOGY	MOFDM	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 68 %RH, 998hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Antony Lee	TEST MODE	C

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.14	53.73	46.85	53.87	46.99	63.74	53.74	-9.87	-6.75
2	0.267	0.14	45.94	-	46.08	-	61.20	51.20	-15.12	-
3	0.334	0.15	43.78	-	43.93	-	59.36	49.36	-15.43	-
4	0.466	0.15	40.32	-	40.47	-	56.58	46.58	-16.10	-
5	5.055	0.45	37.84	-	38.29	-	60.00	50.00	-21.71	-
6	5.586	0.47	38.73	-	39.20	-	60.00	50.00	-20.80	-

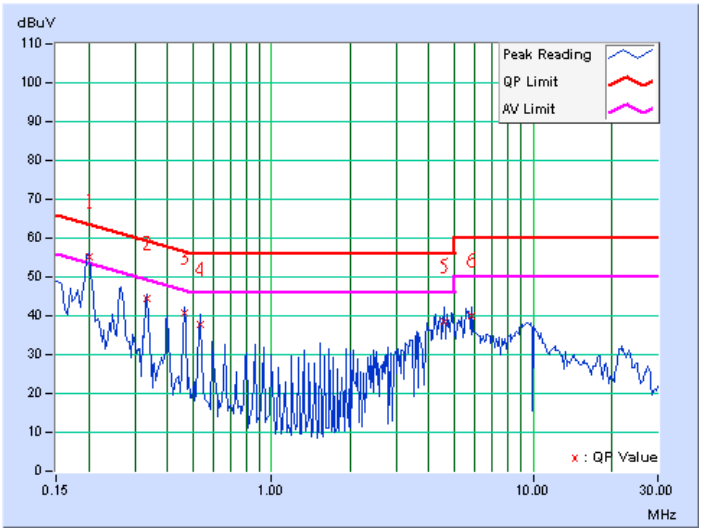
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	PHASE	Line 1
MODULATION TECHNOLOGY	MOFDM	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 68 %RH, 998hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Antony Lee	TEST MODE	D

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.13	54.54	47.73	54.67	47.86	63.58	53.58	-8.91	-5.72
2	0.334	0.14	43.88	-	44.02	-	59.36	49.36	-15.34	-
3	0.466	0.14	40.22	-	40.36	-	56.58	46.58	-16.21	-
4	0.533	0.15	37.35	-	37.50	-	56.00	46.00	-18.50	-
5	4.586	0.46	38.08	-	38.54	-	56.00	46.00	-17.46	-
6	5.852	0.50	39.60	-	40.10	-	60.00	50.00	-19.90	-

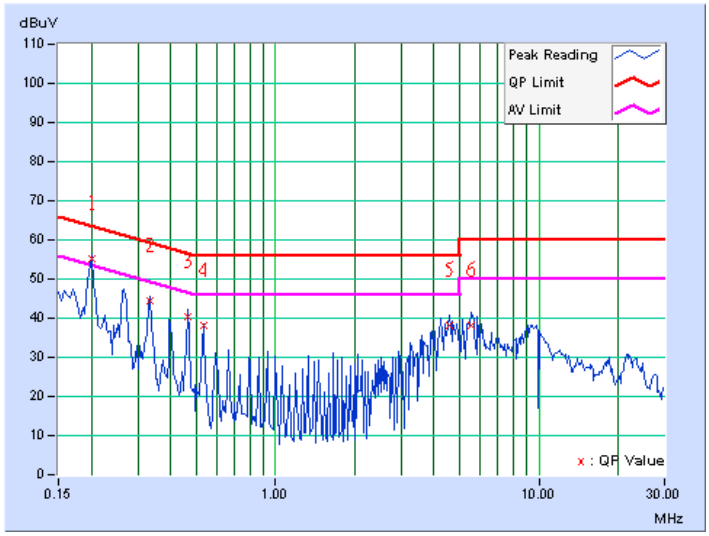
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	PHASE	Line 2
MODULATION TECHNOLOGY	MOFDM	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 68 %RH, 998hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Antony Lee	TEST MODE	D

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.201**	**0.14**	**54.58**	**47.73**	**54.72**	**47.87**	**63.58**	**53.58**	**-8.86**	**-5.71**
2	0.334	0.15	43.92	-	44.07	-	59.36	49.36	-15.29	-
3	0.466	0.15	40.04	-	40.19	-	56.58	46.58	-16.38	-
4	0.533	0.16	37.53	-	37.69	-	56.00	46.00	-18.31	-
5	4.586	0.44	37.80	-	38.24	-	56.00	46.00	-17.76	-
6	5.516	0.47	37.82	-	38.29	-	60.00	50.00	-21.71	-

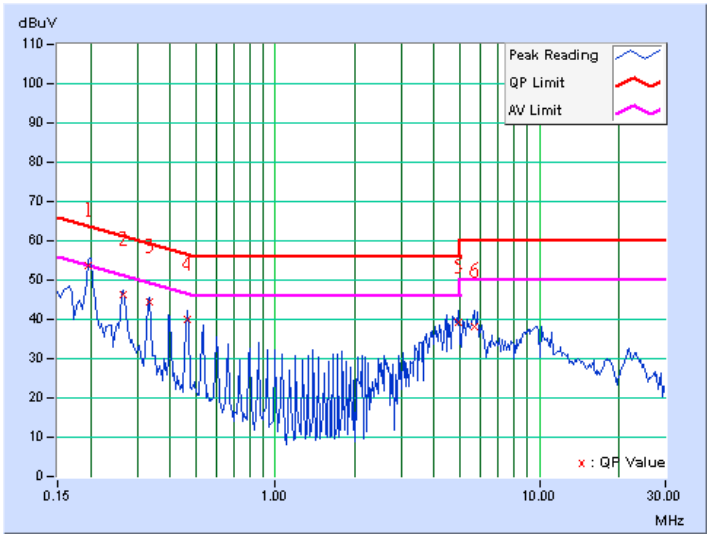
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	PHASE	Line 1
MODULATION TECHNOLOGY	MOFDM	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 68 %RH, 998hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Antony Lee	TEST MODE	E

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.13	53.16	-	53.29	-	63.74	53.74	-10.45	-
2	0.267	0.13	45.69	-	45.82	-	61.20	51.20	-15.38	-
3	0.334	0.14	43.99	-	44.13	-	59.36	49.36	-15.23	-
4	0.466	0.14	39.43	-	39.57	-	56.58	46.58	-17.00	-
5	4.918	0.47	38.87	-	39.34	-	56.00	46.00	-16.66	-
6	5.648	0.49	37.79	-	38.28	-	60.00	50.00	-21.72	-

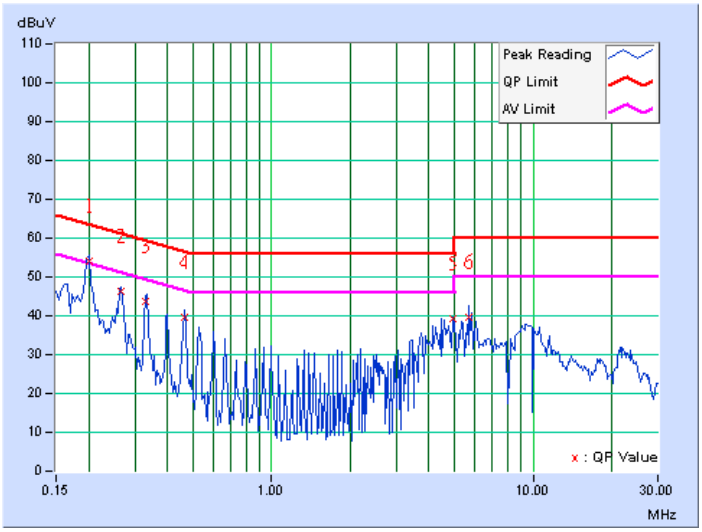
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	PHASE	Line 2
MODULATION TECHNOLOGY	MOFDM	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 68 %RH, 998hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Antony Lee	TEST MODE	E

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.14	53.73	47.27	53.87	47.41	63.58	53.58	-9.71	-6.17
2	0.267	0.14	45.71	-	45.85	-	61.20	51.20	-15.35	-
3	0.330	0.15	43.23	-	43.38	-	59.46	49.46	-16.08	-
4	0.466	0.15	39.25	-	39.40	-	56.58	46.58	-17.17	-
5	4.918	0.45	38.79	-	39.24	-	56.00	46.00	-16.76	-
6	5.715	0.47	39.19	-	39.66	-	60.00	50.00	-20.34	-

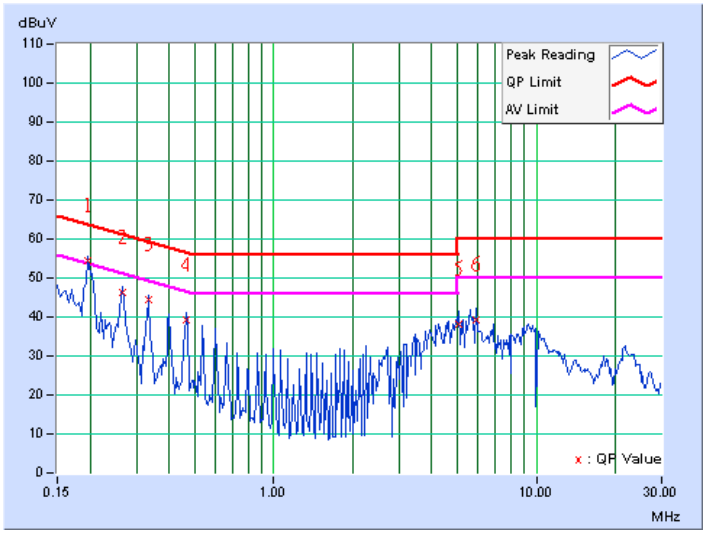
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	PHASE	Line 1
MODULATION TECHNOLOGY	MOFDM	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 68 %RH, 998hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Antony Lee	TEST MODE	F

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.13	53.77	47.02	53.90	47.15	63.74	53.74	-9.84	-6.59
2	0.267	0.13	45.92	-	46.05	-	61.20	51.20	-15.15	-
3	0.334	0.14	43.84	-	43.98	-	59.36	49.36	-15.38	-
4	0.466	0.14	38.73	-	38.87	-	56.58	46.58	-17.70	-
5	5.051	0.47	37.70	-	38.17	-	60.00	50.00	-21.83	-
6	5.914	0.50	38.91	-	39.41	-	60.00	50.00	-20.59	-

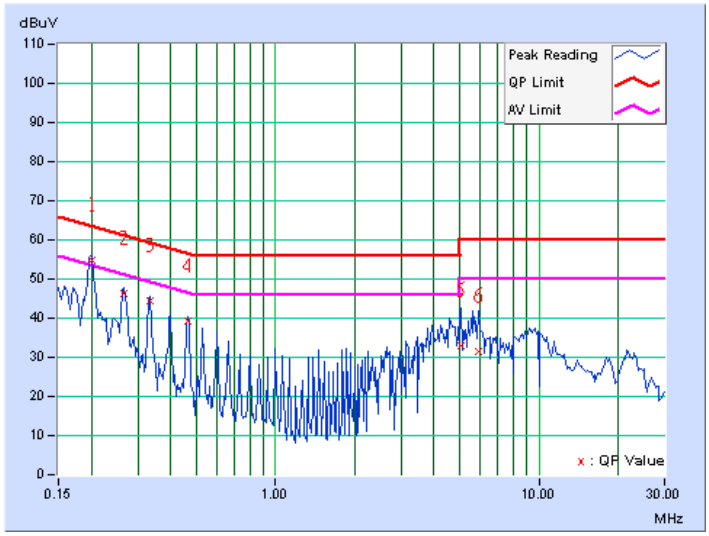
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	PHASE	Line 2
MODULATION TECHNOLOGY	MOFDM	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 68 %RH, 998hPa	INPUT POWER (SYSTEM)	120Vac, 60 Hz
TESTED BY	Antony Lee	TEST MODE	F

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
		Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.201	0.14	54.36	47.65	54.50	47.79	63.58	53.58	-9.08	-5.79
2	0.267	0.14	45.92	-	46.06	-	61.20	51.20	-15.14	-
3	0.334	0.15	43.84	-	43.99	-	59.36	49.36	-15.37	-
4	0.466	0.15	38.73	-	38.88	-	56.58	46.58	-17.69	-
5	5.047	0.45	32.60	-	33.05	-	60.00	50.00	-26.95	-
6	5.914	0.47	31.19	-	31.66	-	60.00	50.00	-28.34	-

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Emission Level = Correction Factor + Reading Value.



4.2 RADIATED EMISSION MEASUREMENT (FOR 15.519 (c))

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The radiated emissions at or below 960MHz from a device operating under the provisions of this section shall not exceed the emission levels in Section 15.209.

FREQUENCIES (MHz)	FIELD STRENGTH (mV/m)	MEASUREMENT DISTANCE (m)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3

NOTE: 1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

The radiated emissions above 960MHz from a device operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of 1MHz:

FREQUENCY IN MHz	EIRP IN dBm	dBuV/m@3m	dBuV/m@1m
960 ~ 1,610	-75.3	19.9	29.44
1,610 ~ 1,990	-63.3	31.9	41.44
1,990 ~ 3,100	-61.3	33.9	43.44
3,100 ~ 10,600	-41.3	53.9	63.44
Above 10600	-51.3	43.9	53.44

Transfer rules follow 15.521(g),15.31(f)(1).

15.521(c) Emissions from digital circuitry used to enable the operation of the UWB transmitter shall comply with the limits in Section 15.209 of this chapter, rather than the limits specified in this subpart.

NOTE: Use conducted measurement to determine emissions is from digital circuitry or not. Emissions from digital circuitry follow 15.209.

The radiated emissions from a device operating under the provisions of this section shall not exceed the emission levels in Section 15.209.

FREQUENCY IN MHz	dBuV/m@3m	dBuV/m@1m
	Quasi Peak	Quasi Peak
216 ~ 960	46.00	55.54
960 ~ 1000	54.00	63.54

FREQUENCY IN MHz	dBuV/m@3m		dBuV/m@1m	
Above 1000	Peak	Average	Peak	Average
	74.00	54.00	83.54	63.54

4.2.2 INSTRUMENT SETUP VALUE AND MEASUREMENT DISTANCE

FREQUENCY RANGE	RESOLUTION BANDWIDTH	VIDEO BANDWIDTH	DETECTOR	MEASUREMENT DISTANCE
Below 960MHz	120kHz	120kHz	Quasi Peak	3 meters
Above 960MHz	1MHz	3MHz	RMS	1 meter

4.2.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESI7	100033	Jun. 30, 2008	Jun. 29, 2009
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Apr. 22, 2008	Apr. 21, 2009
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	May 02, 2008	May 01, 2009
HORN Antenna SCHWARZBECK	9120D	9120D-209	Jun. 24, 2008	Jun. 23, 2009
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170243	Dec. 25, 2007	Dec. 24, 2008
Preamplifier Agilent	8447D	2944A10633	Nov. 03, 2008	Nov. 02, 2009
Preamplifier Agilent	8449B	3008A01964	Oct. 23, 2008	Oct. 22, 2009
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	238141/4	May 20, 2008	May 19, 2009
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	12738/6	May 20, 2008	May 19, 2009
Software ADT.	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA	NA
Turn Table ADT.	TT100.	TT93021703	NA	NA
Turn Table Controller ADT.	SC100.	SC93021703	NA	NA

NOTE:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 3.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 988962.
5. The IC Site Registration No. is IC 7450F-3.

4.2.4 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 1, 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

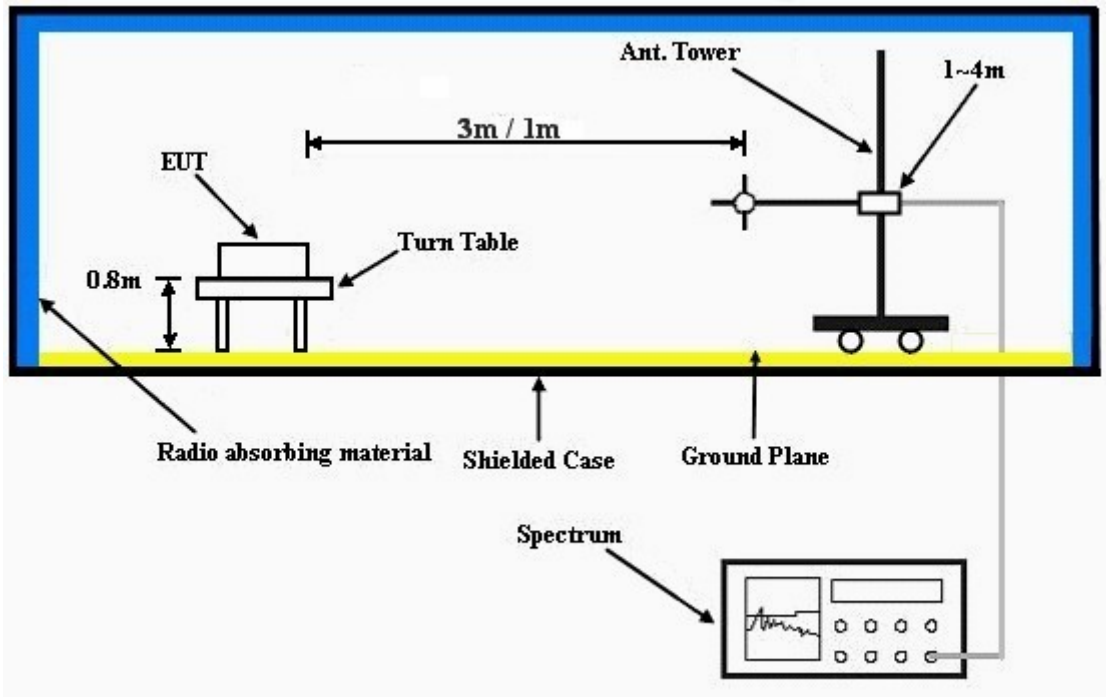
c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

4.2.5 DEVIATION FROM TEST STANDARD

No deviation

4.2.6 TEST SETUP



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.2.7 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.8 TEST RESULTS

RADIATED BELOW 960MHz WORST-CASE DATA

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	Below 960MHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23 deg. C, 67 %RH, 985hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Mark Liao	**TEST MODE**	**A**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	166.05	39.16 QP	43.50	-4.34	2.50 H	4	24.68	14.47
2	196.58	42.48 QP	43.50	-1.02	1.75 H	190	31.26	11.22
3	426.97	37.38 QP	46.00	-8.62	2.00 H	67	17.79	19.58
4	570.48	38.57 QP	46.00	-7.43	1.25 H	76	15.55	23.02
5	800.00	44.85 QP	46.00	-1.15	1.57 H	66	17.31	27.54
6	900.36	43.11 QP	46.00	-2.89	2.00 H	181	13.21	29.90

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	356.15	40.00 QP	46.00	-6.00	1.00 V	10	23.01	16.99
2	427.86	44.94 QP	46.00	-1.06	1.15 V	8	25.33	19.61
3	499.66	42.37 QP	46.00	-3.63	2.50 V	10	20.91	21.46
4	570.48	41.98 QP	46.00	-4.02	1.50 V	43	18.96	23.02
5	713.99	40.66 QP	46.00	-5.34	1.25 V	37	14.01	26.65
6	799.72	41.37 QP	46.00	-4.63	1.25 V	22	13.83	27.54

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	Below 960MHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23 deg. C, 67 %RH, 985hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Mark Liao	**TEST MODE**	**B**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	166.05	39.02 QP	43.50	-4.48	1.50 H	154	24.54	14.47
2	195.00	42.34 QP	43.50	-1.16	1.73 H	181	31.04	11.30
3	238.74	40.37 QP	46.00	-5.63	1.25 H	169	26.71	13.66
4	285.33	41.02 QP	46.00	-4.98	1.50 H	310	26.61	14.42
5	426.97	37.18 QP	46.00	-8.82	2.50 H	52	17.60	19.58
6	800.00	44.89 QP	46.00	-1.11	1.71 H	60	17.35	27.54

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	285.33	43.57 QP	46.00	-2.43	1.25 V	358	29.15	14.42
2	356.15	39.33 QP	46.00	-6.67	1.75 V	46	22.34	16.99
3	427.00	44.21 QP	46.00	-1.79	1.52 V	8	24.62	19.59
4	499.66	42.61 QP	46.00	-3.39	2.00 V	13	21.16	21.46
5	570.48	41.11 QP	46.00	-4.89	1.50 V	46	18.09	23.02
6	799.72	40.78 QP	46.00	-5.22	1.25 V	76	13.23	27.54

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	Below 960MHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24 deg. C, 64 %RH, 975hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Match Tsui	**TEST MODE**	**C**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	31.86	38.87 QP	40.00	-1.13	2.50 H	103	25.58	13.30
2	166.05	42.21 QP	43.50	-1.29	1.50 H	10	27.73	14.47
3	195.87	42.19 QP	43.50	-1.31	1.00 H	37	30.93	11.26
4	238.74	41.59 QP	46.00	-4.41	1.00 H	163	27.92	13.66
5	499.66	38.67 QP	46.00	-7.33	1.50 H	34	17.22	21.46
6	799.72	44.77 QP	46.00	-1.23	1.50 H	52	17.23	27.54
7	812.77	40.11 QP	46.00	-5.89	1.50 H	52	12.27	27.85
8	945.09	42.67 QP	46.00	-3.33	2.50 H	151	12.27	30.39

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	31.86	36.12 QP	40.00	-3.88	1.25 V	292	22.82	13.30
2	285.33	38.61 QP	46.00	-7.39	2.00 V	349	24.19	14.42
3	356.15	38.80 QP	46.00	-7.20	1.25 V	55	21.81	16.99
4	426.97	41.55 QP	46.00	-4.45	1.00 V	10	21.97	19.58
5	499.66	40.47 QP	46.00	-5.53	2.00 V	28	19.02	21.46
6	713.99	38.55 QP	46.00	-7.45	1.25 V	97	11.90	26.65
7	799.72	40.57 QP	46.00	-5.43	1.50 V	55	13.03	27.54
8	945.09	43.85 QP	46.00	-2.15	1.50 V	223	13.46	30.39

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	Below 960MHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24 deg. C, 64 %RH, 975hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Match Tsui	**TEST MODE**	**D**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	31.86	37.37 QP	40.00	-2.63	1.50 H	283	24.07	13.30
2	166.05	40.56 QP	43.50	-2.94	2.00 H	16	26.09	14.47
3	195.87	42.42 QP	43.50	-1.08	1.00 H	34	31.16	11.26
4	238.74	41.23 QP	46.00	-4.77	1.25 H	163	27.57	13.66
5	285.33	39.12 QP	46.00	-6.88	1.00 H	247	24.70	14.42
6	426.97	38.73 QP	46.00	-7.27	2.00 H	58	19.14	19.58
7	499.66	38.02 QP	46.00	-7.98	1.50 H	46	16.57	21.46
8	799.72	44.81 QP	46.00	-1.19	1.50 H	46	17.27	27.54
9	812.77	40.23 QP	46.00	-5.77	1.50 H	46	12.38	27.85
10	954.41	42.48 QP	46.00	-3.52	2.00 H	280	11.99	30.49

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	31.86	36.36 QP	40.00	-3.64	1.25 V	268	23.07	13.30
2	356.15	39.63 QP	46.00	-6.37	1.25 V	13	22.64	16.99
3	426.97	41.42 QP	46.00	-4.58	1.25 V	10	21.83	19.58
4	499.66	40.66 QP	46.00	-5.34	2.00 V	34	19.20	21.46
5	713.99	38.71 QP	46.00	-7.29	1.25 V	109	12.06	26.65
6	799.72	38.98 QP	46.00	-7.02	1.50 V	226	11.44	27.54
7	948.82	44.37 QP	46.00	-1.63	2.00 V	196	13.94	30.44

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	Below 960MHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24 deg. C, 64 %RH, 975hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Match Tsui	**TEST MODE**	**E**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	98.96	34.18 QP	43.50	-9.32	2.00 H	22	22.59	11.59
2	285.33	37.00 QP	46.00	-9.00	1.25 H	274	22.58	14.42
3	426.97	36.56 QP	46.00	-9.44	2.00 H	70	16.97	19.58
4	479.16	38.44 QP	46.00	-7.56	2.00 H	313	17.53	20.91
5	794.13	42.94 QP	46.00	-3.06	1.50 H	61	15.46	27.49
6	812.77	37.61 QP	46.00	-8.39	2.00 H	130	9.76	27.85
7	960.00	40.17 QP	46.00	-5.83	1.50 H	145	9.64	30.53

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	285.33	39.14 QP	46.00	-6.86	1.50 V	22	24.72	14.42
2	356.15	38.23 QP	46.00	-7.77	1.50 V	19	21.23	16.99
3	426.97	42.78 QP	46.00	-3.22	1.50 V	10	23.19	19.58
4	499.66	41.83 QP	46.00	-4.17	2.00 V	10	20.37	21.46
5	570.48	37.61 QP	46.00	-8.39	1.50 V	37	14.59	23.02
6	713.99	39.75 QP	46.00	-6.25	1.25 V	100	13.10	26.65
7	799.72	40.84 QP	46.00	-5.16	1.00 V	64	13.30	27.54
8	812.77	36.92 QP	46.00	-9.08	1.00 V	64	9.08	27.85
9	928.32	37.04 QP	46.00	-8.96	1.00 V	82	6.83	30.21
10	960.00	37.78 QP	46.00	-8.22	1.00 V	295	7.24	30.53

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	Below 960MHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24 deg. C, 64 %RH, 975hPa	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
TESTED BY	Match Tsui	**TEST MODE**	**F**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	98.96	34.11 QP	43.50	-9.39	2.00 H	1	22.52	11.59
2	285.33	38.22 QP	46.00	-7.78	1.00 H	79	23.81	14.42
3	426.97	36.02 QP	46.00	-9.98	2.00 H	262	16.44	19.58
4	499.66	36.78 QP	46.00	-9.22	1.50 H	97	15.32	21.46
5	799.72	43.24 QP	46.00	-2.76	1.00 H	40	15.70	27.54
6	928.32	38.20 QP	46.00	-7.80	1.25 H	70	7.99	30.21
7	960.00	39.92 QP	46.00	-6.08	1.00 H	145	9.38	30.53

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	285.33	40.03 QP	46.00	-5.97	1.25 V	13	25.61	14.42
2	356.15	36.23 QP	46.00	-9.77	1.00 V	52	19.23	16.99
3	426.97	41.74 QP	46.00	-4.26	1.00 V	10	22.16	19.58
4	499.66	41.97 QP	46.00	-4.03	2.00 V	82	20.51	21.46
5	570.48	37.79 QP	46.00	-8.21	1.50 V	28	14.76	23.02
6	713.99	38.19 QP	46.00	-7.81	1.25 V	88	11.54	26.65
7	799.72	40.45 QP	46.00	-5.55	1.25 V	274	12.91	27.54
8	928.32	38.45 QP	46.00	-7.55	1.00 V	118	8.23	30.21
9	960.00	38.09 QP	46.00	-7.91	1.00 V	274	7.55	30.53

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

RADIATED ABOVE 960MHz DATA

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	FREQUENCY RANGE	960MHz ~ 40GHz
MODULATION TECHNOLOGY	MOFDM	DETECTOR FUNCTION	RMS
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24 deg. C, 64 %RH, 982hPa
TESTED BY	Match Tsui	TEST MODE	A

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3504.00	55.92	63.44	-7.52	1.30 H	0	19.66	36.26
2	4016.00	56.22	63.44	-7.22	1.30 H	0	18.50	37.72
3	4608.00	54.18	63.44	-9.26	1.30 H	0	14.74	39.44
4	7008.00	43.08	63.44	-20.36	1.02 H	360	-2.89	45.97
5	8032.00	47.09	63.44	-16.35	1.00 H	360	-0.91	48.00
6	9216.00	48.05	63.44	-15.39	1.00 H	360	-0.74	48.79

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3244.00	62.43	63.44	-1.01	1.04 V	19	26.70	35.73
2	3924.00	60.18	63.44	-3.26	1.04 V	19	22.64	37.54
3	4612.00	59.62	63.44	-3.82	1.04 V	19	20.16	39.46
4	6488.00	45.24	63.44	-18.20	1.01 V	0	1.33	43.91
5	7848.00	48.34	63.44	-15.10	1.04 V	180	0.49	47.85
6	9224.00	50.17	63.44	-13.27	1.04 V	180	1.39	48.78

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	960MHz ~ 40GHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	RMS
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24 deg. C, 64 %RH, 982hPa
TESTED BY	Match Tsui	**TEST MODE**	**B**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	6758.00	54.21	63.44	-9.23	1.30 H	0	27.49	26.72
2	7002.80	55.57	63.44	-7.87	1.30 H	0	28.85	26.72
3	7463.60	57.03	63.44	-6.41	1.30 H	0	30.31	26.72
4	13516.00	38.16	53.44	-15.28	1.00 H	360	11.44	26.72
5	14005.60	39.93	53.44	-13.51	1.04 H	188	13.21	26.72
6	14927.20	39.87	53.44	-13.57	1.00 H	360	13.15	26.72

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	6390.80	53.73	63.44	-9.71	1.19 V	19	27.01	26.72
2	7042.40	53.53	63.44	-9.91	1.19 V	19	26.81	26.72
3	7463.60	56.25	63.44	-7.19	1.19 V	19	29.53	26.72
4	12781.60	40.27	53.44	-13.17	1.00 V	300	13.55	26.72
5	14084.80	40.23	53.44	-13.21	1.00 V	360	13.51	26.72
6	14927.20	40.01	53.44	-13.43	1.05 V	0	13.29	26.72

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	960MHz ~ 40GHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	RMS
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24 deg. C, 64 %RH, 982hPa
TESTED BY	Match Tsui	**TEST MODE**	**C**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3588.00	59.39	63.44	-4.05	1.00 H	153	22.83	36.56
2	3944.00	57.75	63.44	-5.69	1.00 H	153	20.18	37.57
3	4472.00	58.03	63.44	-5.41	1.00 H	153	19.09	38.94
4	7176.00	45.11	63.44	-18.33	1.00 H	31	-1.20	46.31
5	7888.00	48.09	63.44	-15.35	1.05 H	136	0.26	47.83
6	8944.00	49.08	63.44	-14.36	1.05 H	37	0.93	48.15

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3600.00	57.47	63.44	-5.97	1.35 V	0	20.87	36.60
2	3944.00	54.72	63.44	-8.72	1.35 V	0	17.15	37.57
3	4480.00	57.28	63.44	-6.16	1.35 V	0	18.31	38.97
4	7200.00	43.19	63.44	-20.25	1.00 V	256	-3.20	46.39
5	7888.00	47.33	63.44	-16.11	1.00 V	174	-0.50	47.83
6	8960.00	48.29	63.44	-15.15	1.00 V	168	0.08	48.21

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	960MHz ~ 40GHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	RMS
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24 deg. C, 64 %RH, 982hPa
TESTED BY	Match Tsui	**TEST MODE**	**D**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	6534.80	61.53	63.44	-1.91	1.29 H	0	17.44	44.09
2	**6927.20**	**62.44**	**63.44**	**-1.00**	**1.29 H**	**0**	**16.70**	**45.74**
3	7463.60	59.43	63.44	-4.01	1.29 H	0	12.21	47.22
4	13069.60	40.14	53.44	-13.30	1.00 H	175	-12.48	52.62
5	13854.40	40.02	53.44	-13.41	1.00 H	226	-13.26	53.28
6	14927.20	39.92	53.44	-13.52	1.00 H	147	-12.21	52.13

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	6538.40	58.03	63.44	-5.41	1.25 V	0	13.93	44.10
2	7002.80	60.41	63.44	-3.03	1.25 V	0	14.45	45.96
3	7298.00	58.23	63.44	-5.21	1.25 V	0	11.54	46.69
4	13076.80	38.59	53.44	-14.85	1.00 V	263	-14.03	52.62
5	14005.60	39.78	53.44	-13.66	1.00 V	216	-13.75	53.53
6	14596.00	39.68	53.44	-13.76	1.00 V	205	-13.53	53.21

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	960MHz ~ 40GHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	RMS
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24 deg. C, 64 %RH, 982hPa
TESTED BY	Match Tsui	**TEST MODE**	**E**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3244.00	58.14 AV	63.44	-5.30	1.08 H	19	22.41	35.73
2	3792.00	57.51 AV	63.44	-5.93	1.08 H	19	20.35	37.16
3	4680.00	56.64 AV	63.44	-6.80	1.08 H	19	16.86	39.78
4	6488.00	43.32 AV	63.44	-20.12	1.00 H	211	-0.59	43.91
5	7584.00	47.22 AV	63.44	-16.22	1.00 H	196	-0.14	47.36
6	9360.00	47.89 AV	63.44	-15.55	1.00 H	223	-0.94	48.83

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3368.00	61.91 AV	63.44	-1.53	1.29 V	19	25.99	35.92
2	3792.00	61.43 AV	63.44	-2.01	1.29 V	19	24.27	37.16
3	4568.00	60.60 AV	63.44	-2.84	1.29 V	19	21.31	39.29
4	6736.00	45.38 AV	63.44	-18.06	1.00 V	127	0.48	44.90
5	7584.00	48.62 AV	63.44	-14.82	1.05 V	214	1.26	47.36
6	9136.00	50.33 AV	63.44	-13.11	1.03 V	162	1.65	48.68

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	960MHz ~ 40GHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	RMS
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24 deg. C, 64 %RH, 982hPa
TESTED BY	Match Tsui	**TEST MODE**	**F**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	6621.20	52.37 AV	63.44	-11.07	1.33 H	19	7.94	44.43
2	7042.40	54.66 AV	63.44	-8.78	1.33 H	19	8.66	46.00
3	7438.40	52.50 AV	63.44	-10.94	1.33 H	19	5.37	47.13
4	13242.40	39.24 AV	53.44	-14.20	1.00 H	214	-13.61	52.85
5	14084.80	39.76 AV	53.44	-13.68	1.00 H	162	-13.82	53.58
6	14876.80	39.65 AV	53.44	-13.79	1.00 H	217	-12.69	52.34

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	6632.00	60.06 AV	63.44	-3.38	1.04 V	19	15.58	44.48
2	7010.00	61.37 AV	63.44	-2.07	1.04 V	19	15.40	45.97
3	7478.00	59.08 AV	63.44	-4.36	1.04 V	19	11.81	47.27
4	13264.00	40.08 AV	53.44	-13.36	1.00 V	288	-12.78	52.86
5	14020.00	39.96 AV	53.44	-13.48	1.00 V	296	-13.58	53.54
6	14956.00	40.22 AV	53.44	-13.22	1.00 V	277	-11.78	52.00

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EMISSIONS FROM NOTEBOOK

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	Above 1GHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	Peak / Average
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24 deg. C, 64 %RH, 985hPa
TESTED BY	Match Tsui	**TEST MODE**	**A**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1070.00	53.79 PK	83.54	-29.75	1.15 H	251	25.56	28.23
2	1070.00	43.68 AV	63.54	-19.86	1.15 H	251	15.45	28.23
3	1140.00	56.31 PK	83.54	-27.23	1.00 H	262	27.82	28.49
4	1140.00	46.19 AV	63.54	-17.35	1.00 H	262	17.70	28.49
5	1783.00	52.57 PK	83.54	-30.97	1.00 H	256	21.82	30.75
6	1783.00	42.22 AV	63.54	-21.32	1.00 H	256	11.47	30.75

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1070.00	56.79 PK	83.54	-26.75	1.18 V	275	28.56	28.23
2	1070.00	45.98 AV	63.54	-17.56	1.18 V	275	17.75	28.23
3	1140.00	53.64 PK	83.54	-29.90	1.05 V	22	25.15	28.49
4	1140.00	43.38 AV	63.54	-20.16	1.05 V	22	14.89	28.49
5	1783.00	51.49 PK	83.54	-32.05	1.05 V	21	20.74	30.75
6	1783.00	41.36 AV	63.54	-22.18	1.05 V	21	10.61	30.75

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	Above 1GHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	Peak / Average
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24 deg. C, 64 %RH, 985hPa
TESTED BY	Match Tsui	**TEST MODE**	**B**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1070.00	53.63 PK	83.54	-29.91	1.09 H	247	25.40	28.23
2	1070.00	43.57 AV	63.54	-19.97	1.09 H	247	15.34	28.23
3	1140.00	56.18 PK	83.54	-27.36	1.00 H	271	27.69	28.49
4	1140.00	46.07 AV	63.54	-17.47	1.00 H	271	17.58	28.49
5	1783.00	52.64 PK	83.54	-30.90	1.00 H	259	21.89	30.75
6	1783.00	42.37 AV	63.54	-21.17	1.00 H	259	11.62	30.75

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1070.00	56.87 PK	83.54	-26.67	1.16 V	272	28.64	28.23
2	1070.00	46.08 AV	63.54	-17.46	1.16 V	272	17.85	28.23
3	1140.00	53.52 PK	83.54	-30.02	1.03 V	29	25.03	28.49
4	1140.00	43.27 AV	63.54	-20.27	1.03 V	29	14.78	28.49
5	1783.00	51.62 PK	83.54	-31.92	1.05 V	33	20.87	30.75
6	1783.00	41.53 AV	63.54	-22.01	1.05 V	33	10.78	30.75

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	Above 1GHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	Peak / Average
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24 deg. C, 64 %RH, 985hPa
TESTED BY	Match Tsui	**TEST MODE**	**C**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1070.00	53.71 PK	83.54	-29.83	1.08 H	247	25.48	28.23
2	1070.00	43.63 AV	63.54	-19.91	1.08 H	247	15.40	28.23
3	1140.00	56.34 PK	83.54	-27.20	1.00 H	259	27.85	28.49
4	1140.00	46.28 AV	63.54	-17.26	1.00 H	259	17.79	28.49
5	1783.00	52.49 PK	83.54	-31.05	1.00 H	269	21.74	30.75
6	1783.00	42.17 AV	63.54	-21.37	1.00 H	269	11.42	30.75

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1070.00	56.72 PK	83.54	-26.82	1.15 V	262	28.49	28.23
2	1070.00	45.89 AV	63.54	-17.65	1.15 V	262	17.66	28.23
3	1140.00	53.52 PK	83.54	-30.02	1.03 V	19	25.03	28.49
4	1140.00	43.27 AV	63.54	-20.27	1.03 V	19	14.78	28.49
5	1783.00	51.38 PK	83.54	-32.16	1.05 V	23	20.63	30.75
6	1783.00	41.25 AV	63.54	-22.29	1.05 V	23	10.50	30.75

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	Above 1GHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	Peak / Average
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24 deg. C, 64 %RH, 985hPa
TESTED BY	Match Tsui	**TEST MODE**	**D**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1070.00	53.71 PK	83.54	-29.83	1.00 H	249	25.48	28.23
2	1070.00	43.61 AV	63.54	-19.93	1.00 H	249	15.38	28.23
3	1140.00	56.07 PK	83.54	-27.47	1.00 H	268	27.58	28.49
4	1140.00	46.02 AV	63.54	-17.52	1.00 H	268	17.53	28.49
5	1783.00	52.53 PK	83.54	-31.01	1.00 H	263	21.78	30.75
6	1783.00	42.32 AV	63.54	-21.22	1.00 H	263	11.57	30.75

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1070.00	56.79 PK	83.54	-26.75	1.15 V	276	28.56	28.23
2	1070.00	46.04 AV	63.54	-17.50	1.15 V	276	17.81	28.23
3	1140.00	53.45 PK	83.54	-30.09	1.05 V	38	24.96	28.49
4	1140.00	43.21 AV	63.54	-20.33	1.05 V	38	14.72	28.49
5	1783.00	51.51 PK	83.54	-32.03	1.00 V	28	20.76	30.75
6	1783.00	41.45 AV	63.54	-22.09	1.00 V	28	10.70	30.75

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	Above 1GHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	Peak / Average
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24 deg. C, 64 %RH, 985hPa
TESTED BY	Match Tsui	**TEST MODE**	**E**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1070.00	53.74 PK	83.54	-29.80	1.12 H	247	25.51	28.23
2	1070.00	43.63 AV	63.54	-19.91	1.12 H	247	15.40	28.23
3	1140.00	56.49 PK	83.54	-27.05	1.00 H	251	28.00	28.49
4	1140.00	46.32 AV	63.54	-17.22	1.00 H	251	17.83	28.49
5	1783.00	52.63 PK	83.54	-30.91	1.00 H	266	21.88	30.75
6	1783.00	42.31 AV	63.54	-21.23	1.00 H	266	11.56	30.75

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1070.00	56.73 PK	83.54	-26.81	1.16 V	272	28.50	28.23
2	1070.00	45.95 AV	63.54	-17.59	1.16 V	272	17.72	28.23
3	1140.00	53.58 PK	83.54	-29.96	1.03 V	19	25.09	28.49
4	1140.00	43.34 AV	63.54	-20.20	1.03 V	19	14.85	28.49
5	1783.00	51.51 PK	83.54	-32.03	1.05 V	26	20.76	30.75
6	1783.00	41.39 AV	63.54	-22.15	1.05 V	26	10.64	30.75

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	Above 1GHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	Peak / Average
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24 deg. C, 64 %RH, 985hPa
TESTED BY	Match Tsui	**TEST MODE**	**F**

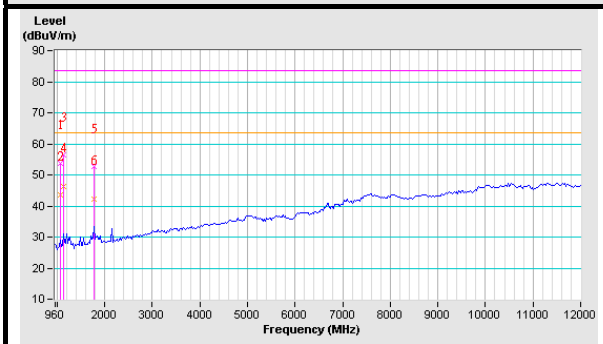
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1070.00	53.68 PK	83.54	-29.86	1.08 H	251	25.45	28.23
2	1070.00	43.62 AV	63.54	-19.92	1.08 H	251	15.39	28.23
3	1140.00	56.27 PK	83.54	-27.27	1.00 H	273	27.78	28.49
4	1140.00	46.14 AV	63.54	-17.40	1.00 H	273	17.65	28.49
5	1783.00	52.59 PK	83.54	-30.95	1.00 H	263	21.84	30.75
6	1783.00	42.32 AV	63.54	-21.22	1.00 H	263	11.57	30.75

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 1 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1070.00	56.79 PK	83.54	-26.75	1.15 V	269	28.56	28.23
2	1070.00	46.03 AV	63.54	-17.51	1.15 V	269	17.80	28.23
3	1140.00	53.56 PK	83.54	-29.98	1.05 V	33	25.07	28.49
4	1140.00	43.31 AV	63.54	-20.23	1.05 V	33	14.82	28.49
5	1783.00	51.68 PK	83.54	-31.86	1.05 V	38	20.93	30.75
6	1783.00	41.59 AV	63.54	-21.95	1.05 V	38	10.84	30.75

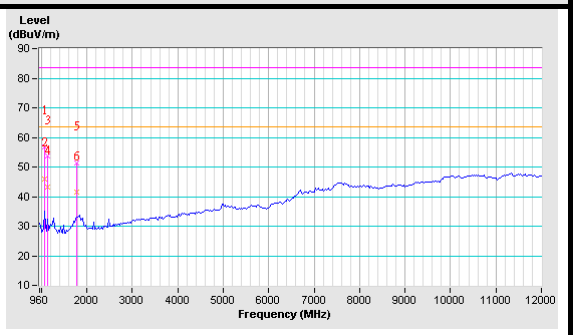
REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

TEST MODE A

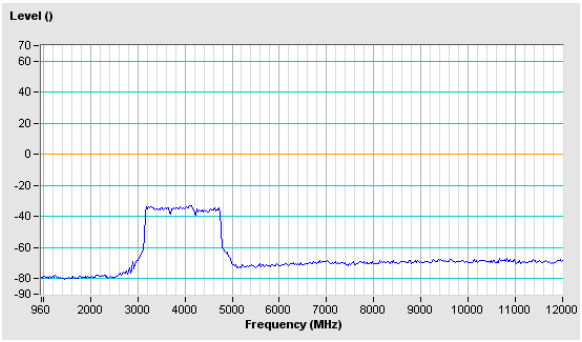
TERMINATED ANTENNA PORT- HORIZONTAL

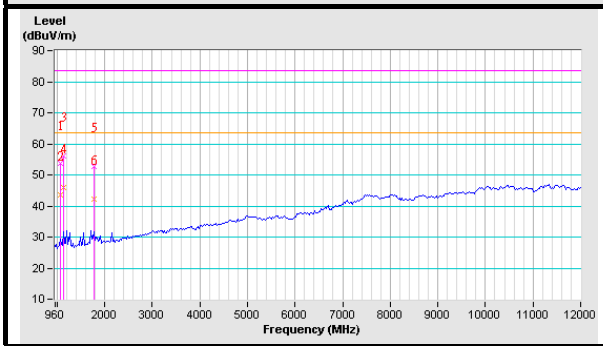
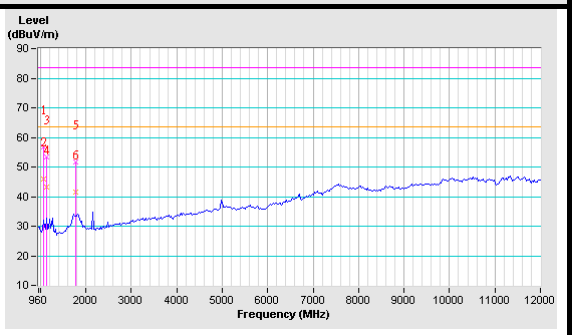


TERMINATED ANTENNA PORT- VERTICAL



CONDUCTED ANTENNA PORT



TEST MODE B	
TERMINATED ANTENNA PORT- HORIZONTAL	TERMINATED ANTENNA PORT- VERTICAL
	
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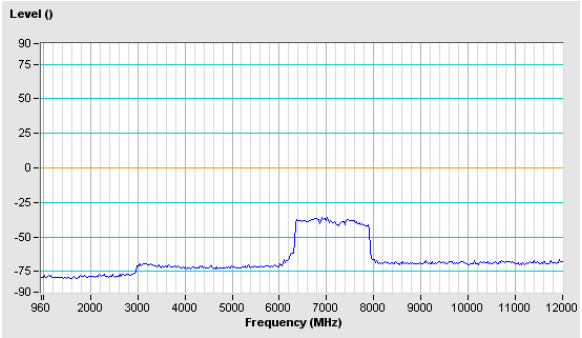
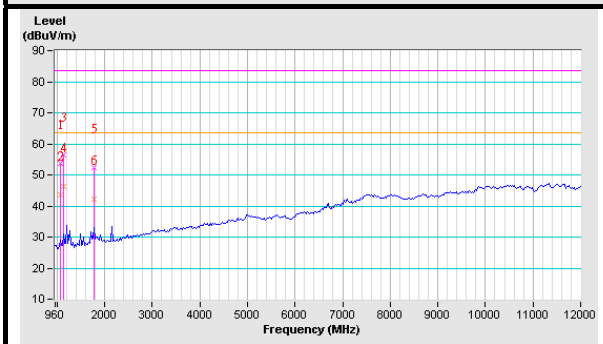
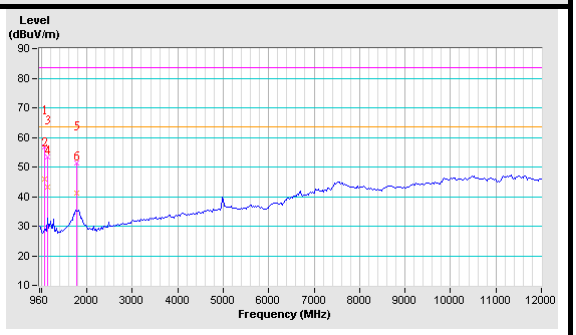
	

TEST MODE C

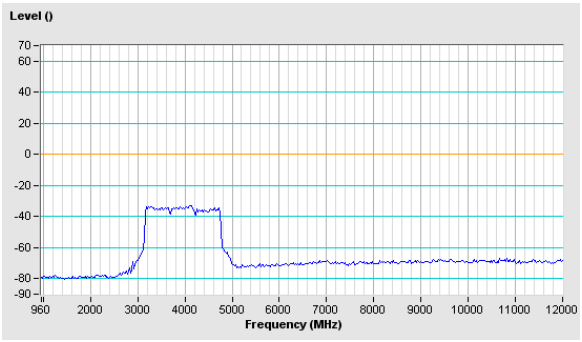
TERMINATED ANTENNA PORT- HORIZONTAL

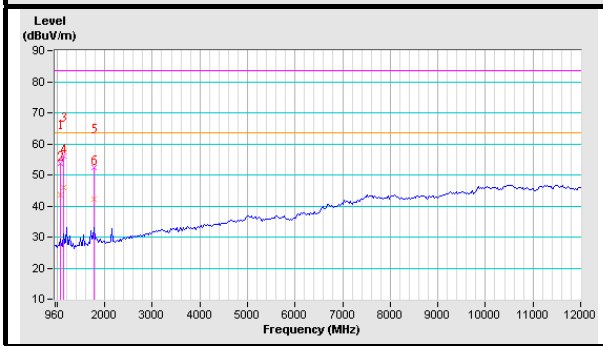
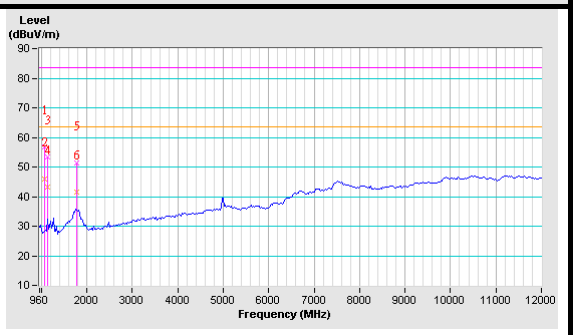


TERMINATED ANTENNA PORT- VERTICAL



CONDUCTED ANTENNA PORT



TEST MODE D	
TERMINATED ANTENNA PORT- HORIZONTAL	TERMINATED ANTENNA PORT- VERTICAL
	
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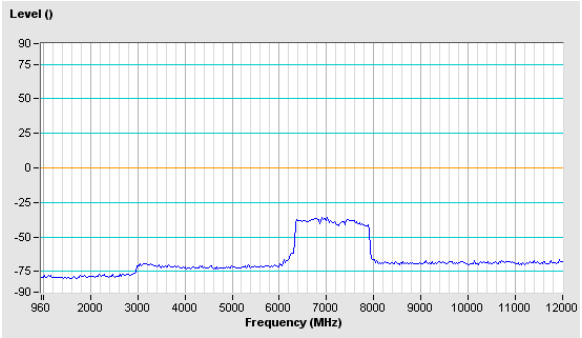
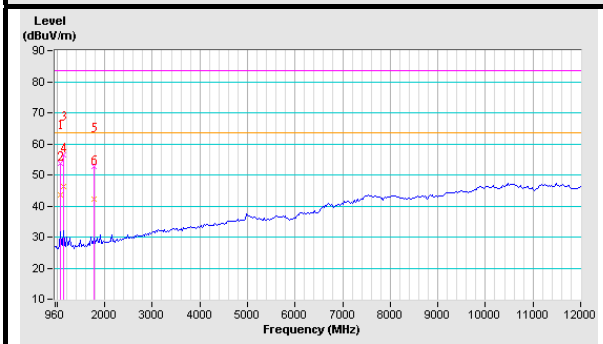
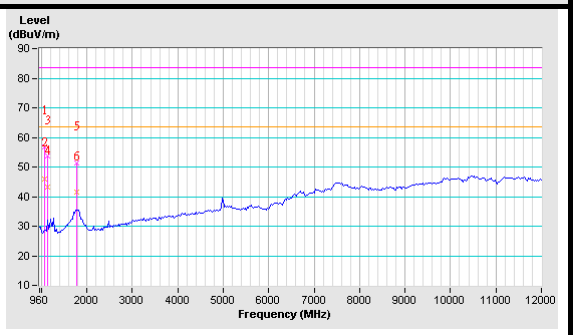
	

TEST MODE E

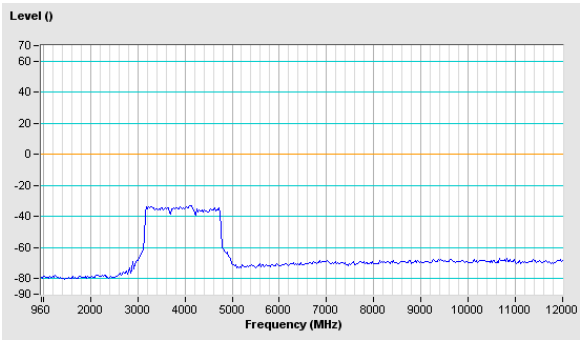
TERMINATED ANTENNA PORT- HORIZONTAL



TERMINATED ANTENNA PORT- VERTICAL



CONDUCTED ANTENNA PORT



TEST MODE F	
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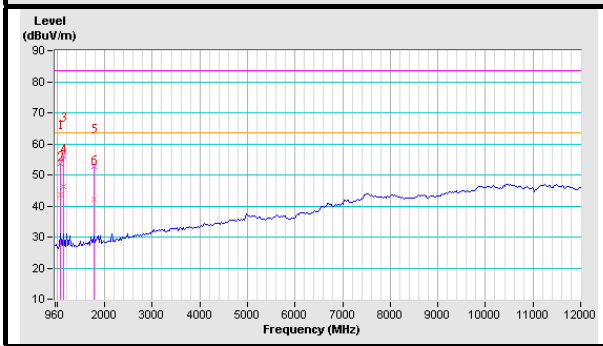
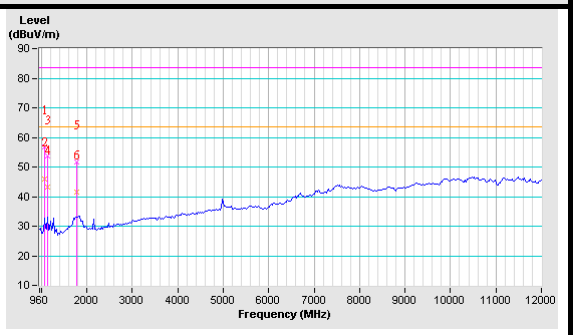
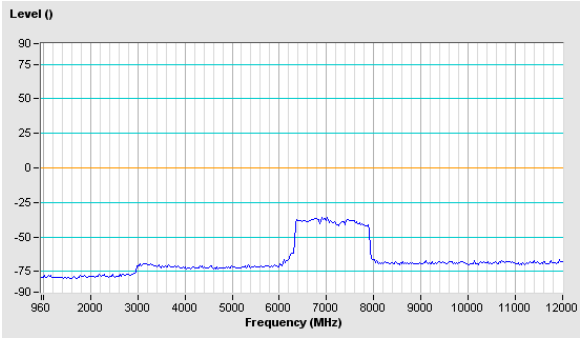
	
CONDUCTED ANTENNA PORT	
	

4.3 RADIATED EMISSION MEASUREMENT (FOR 15.519 (d))

4.3.1 LIMITS OF RADIATED EMISSION MEASUREMENT

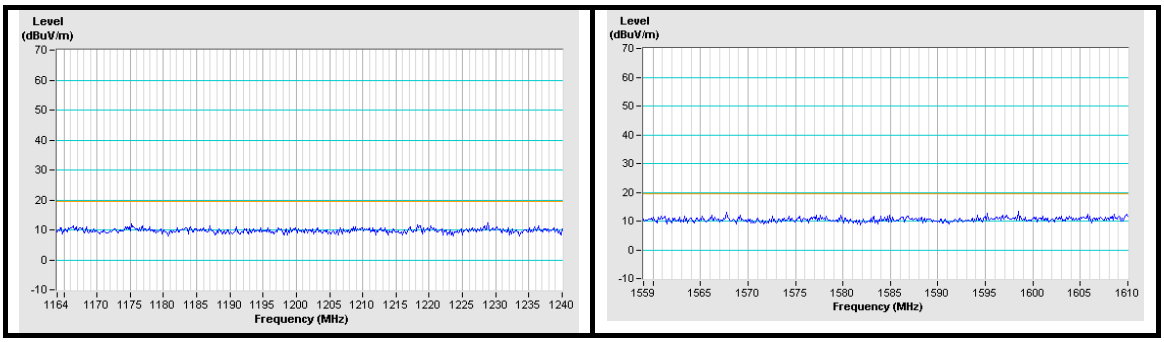
FREQUENCY IN MHz	EIRP IN dBm	dBuV/m@3m	dBuV/m@1m
1,164 ~ 1,240	-85.3	9.9	19.44
1,559 ~ 1,610	-85.3	9.9	19.44

Transfer rules follow 15.521(g), 15.31(f)(1).

NOTE: 1. 15.521(g) converted to a peak field strength level at 3 meters using E(dBuV/m) = P(dBmEIRP) + 95.2.

2. 15.31(f)(1)When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade, Measurement distance moves from 3m to 1m, Limit (1m) = Limit (3m) + 20Log (3/1) = Limit (3m) + 9.54.

Instrument Noise Floor



15.521(c) Emissions from digital circuitry used to enable the operation of the UWB transmitter shall comply with the limits in Section 15.209 of this chapter, rather than the limits specified in this subpart.

NOTE: Use conducted measurement to determine emissions is from digital circuitry or not. Emissions from digital circuitry follow 15.209 else 15.517

The radiated emissions above 1000MHz from a device operating under the provisions of this section shall not exceed the emission levels in Section 15.209.

FREQUENCY IN MHz	dBuV/m@3m		dBuV/m@1m	
Above 1000	Peak	Average	Peak	Average
	74.00	54.00	83.54	63.54

4.3.2 INSTRUMENT SETUP VALUE AND MEASUREMENT DISTANCE

UWB transmitters operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of no less than 1kHz:

FREQUENCY RANGE	RESOLUTION BANDWIDTH	VIDEO BANDWIDTH	DETECTOR	MEASUREMENT DISTANCE
1,164 ~ 1,240	*10kHz	30kHz	RMS	1 meter
1,559 ~ 1,610	*10kHz	30kHz	RMS	1 meter

NOTE: *reference The Evolution of Modern UWB Technology.

4.3.3 TEST INSTRUMENTS

Same as 4.2.3.

4.3.4 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 1 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 1 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

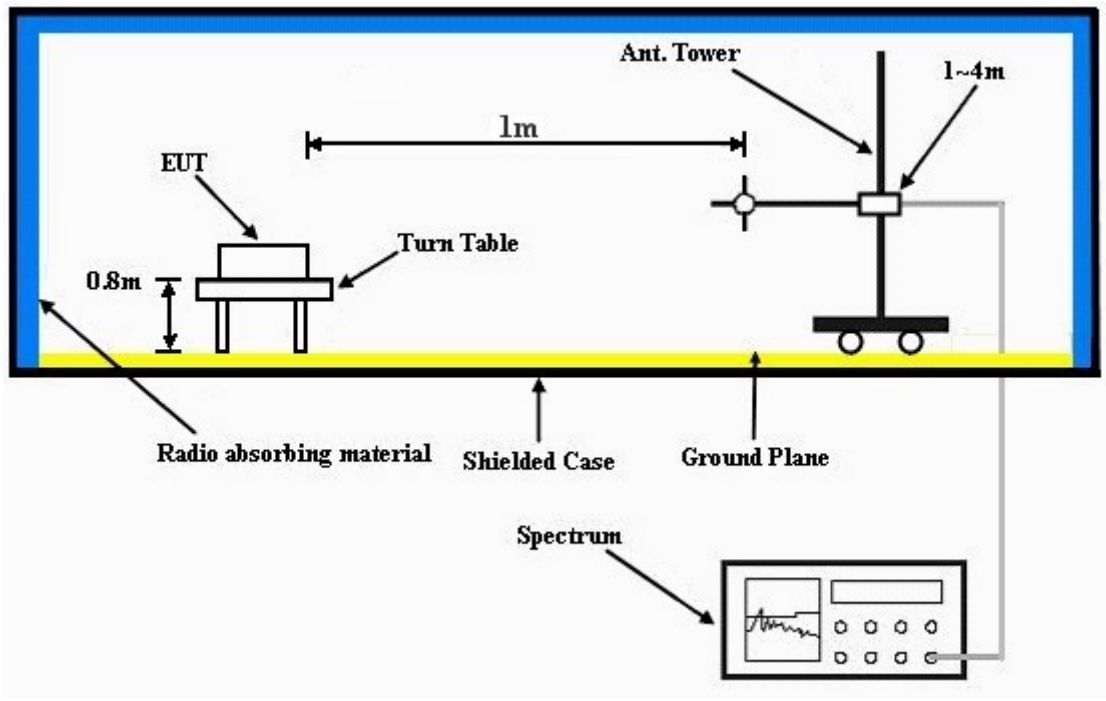
c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

4.3.5 DEVIATION FROM TEST STANDARD

No deviation

4.3.6 TEST SETUP



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.3.7 EUT OPERATING CONDITIONS

Same as 4.1.6

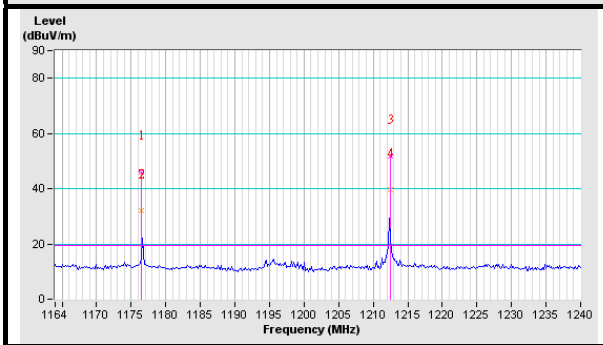
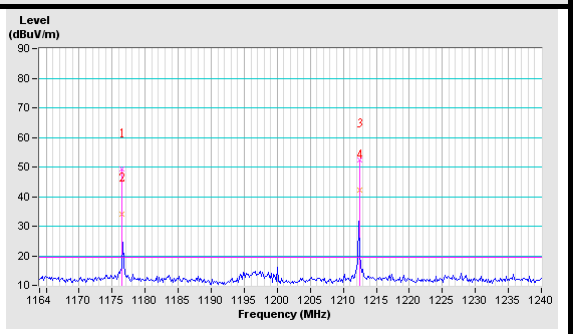
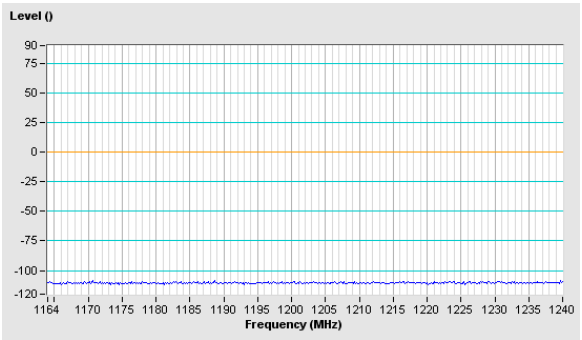
4.3.8 TEST RESULTS

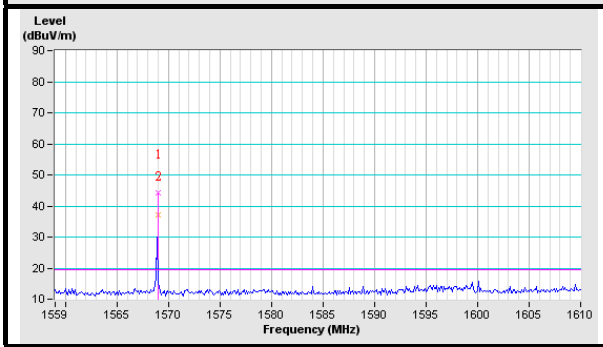
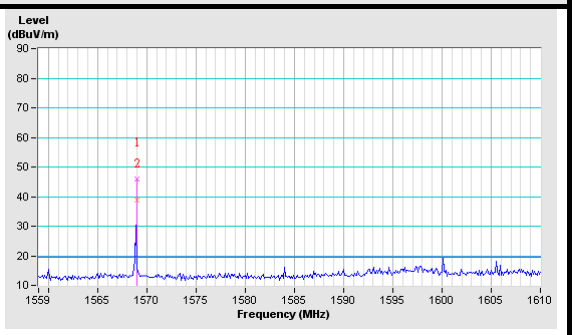
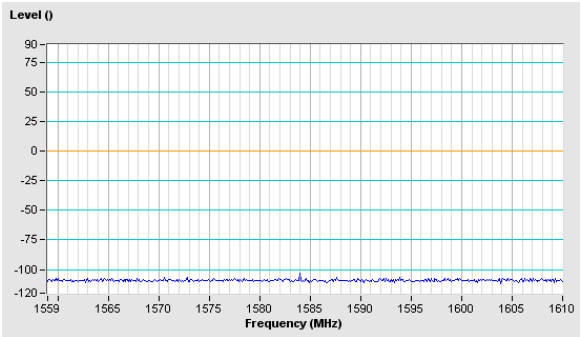
We use two methods to find the emssions of EUT in 1164~1240 and 1596~1610MHz.

1. Conducted measurement from antenna port.
2. Radiated measurement under terminated antenna port.

Test data as below: pages 60~66

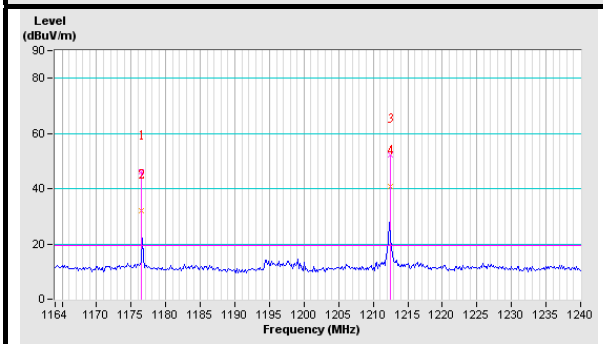
According these test data, we can find that no emissions of EUT appear at 1164~240 and 1596~1610MHz. There are only emssions from test laptop.

<table>
<tr><th colspan="2">TEST MODE A (1164-1240MHz)</th></tr>
<tr><th>TERMINATED ANTENNA PORT- HORIZONTAL</th><th>TERMINATED ANTENNA PORT- VERTICAL</th></tr>
<tr><td> 
</td><td> 
</td></tr>
<tr><th>CONDUCTED ANTENNA PORT</th><th></th></tr>
<tr><td> 
</td><td></td></tr>
</table>

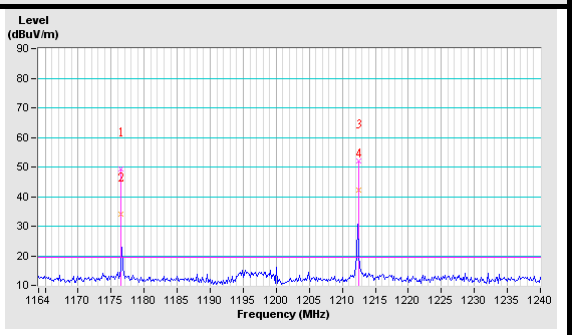
TEST MODE A (1559-1610MHz)	
TERMINATED ANTENNA PORT- HORIZONTAL	TERMINATED ANTENNA PORT- VERTICAL
	
CONDUCTED ANTENNA PORT	
	

TEST MODE B (1164-1240MHz)

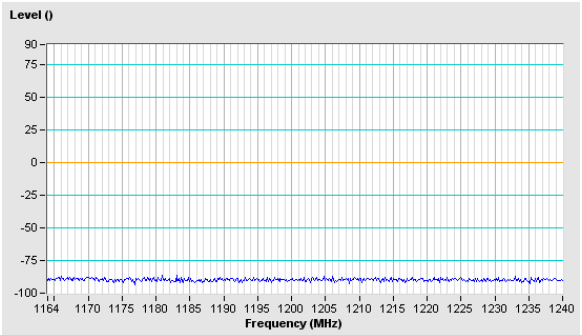
TERMINATED ANTENNA PORT- HORIZONTAL



TERMINATED ANTENNA PORT- VERTICAL

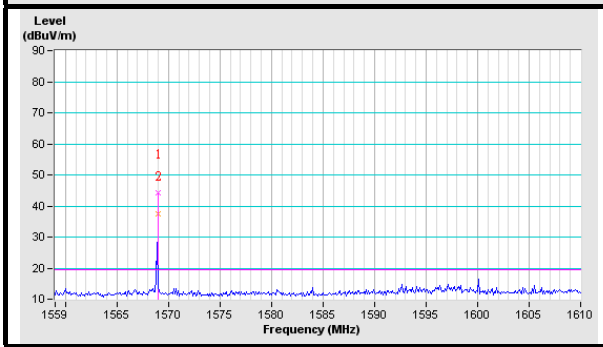


CONDUCTED ANTENNA PORT

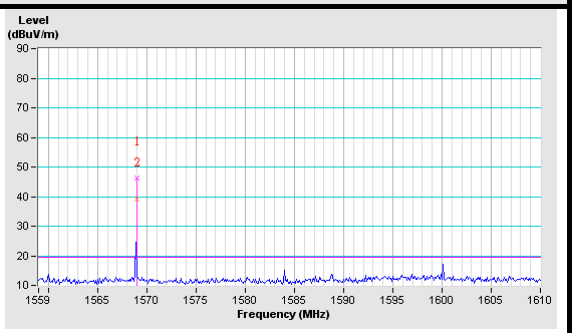


TEST MODE B (1559-1610MHz)

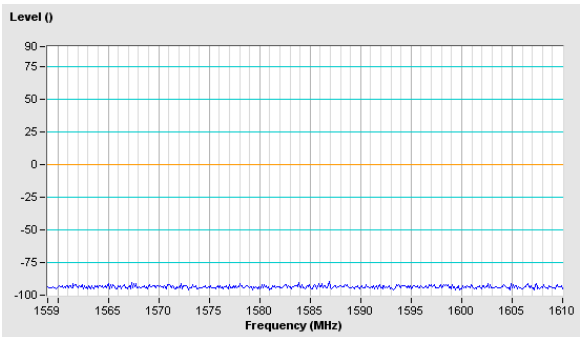
TERMINATED ANTENNA PORT- HORIZONTAL



TERMINATED ANTENNA PORT- VERTICAL

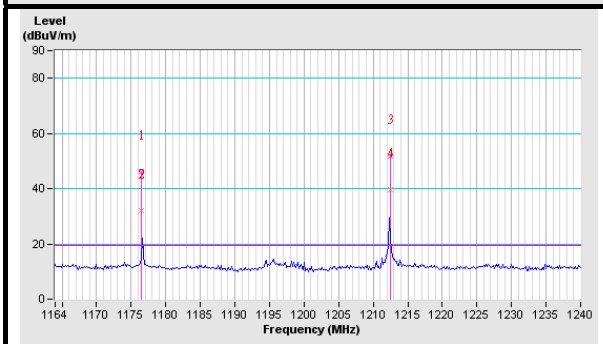


CONDUCTED ANTENNA PORT

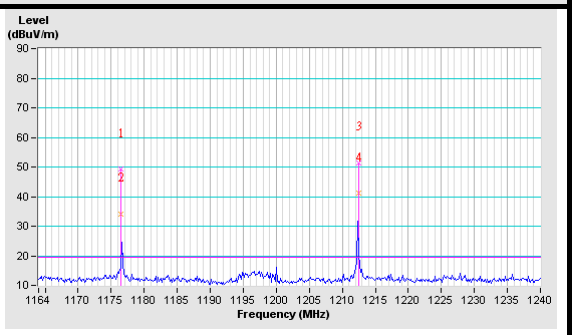


TEST MODE C (1164-1240MHz)

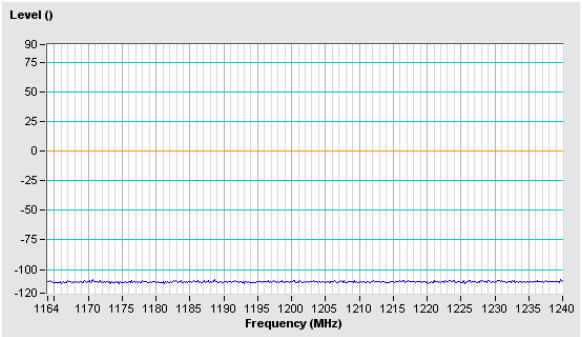
TERMINATED ANTENNA PORT- HORIZONTAL



TERMINATED ANTENNA PORT- VERTICAL

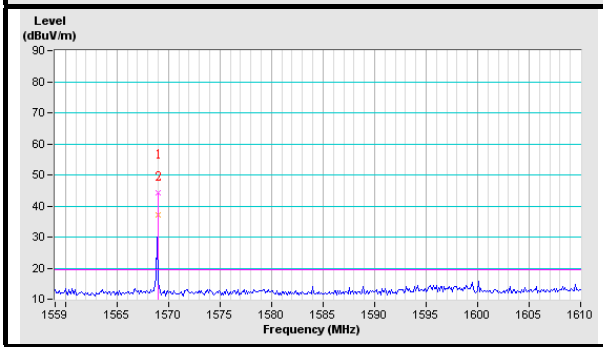


CONDUCTED ANTENNA PORT

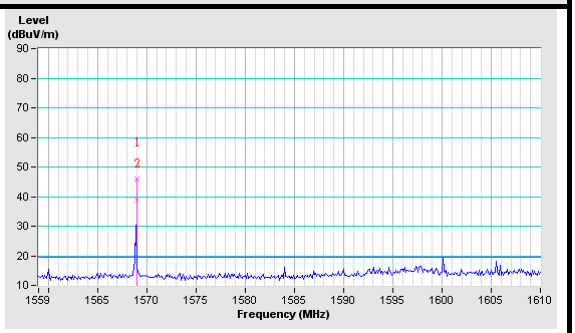


TEST MODE C (1559-1610MHz)

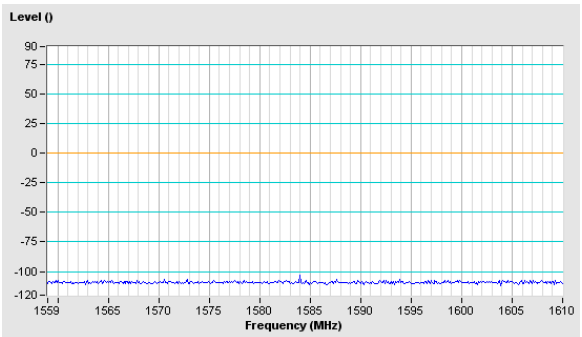
TERMINATED ANTENNA PORT- HORIZONTAL



TERMINATED ANTENNA PORT- VERTICAL

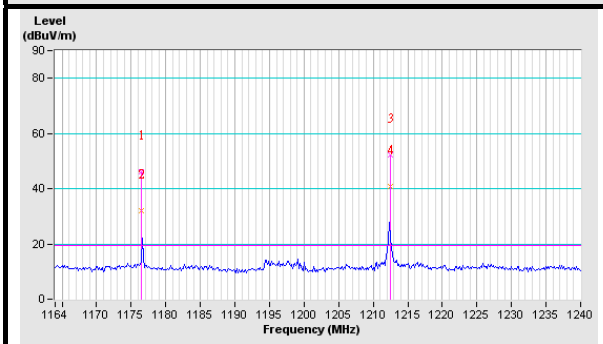


CONDUCTED ANTENNA PORT

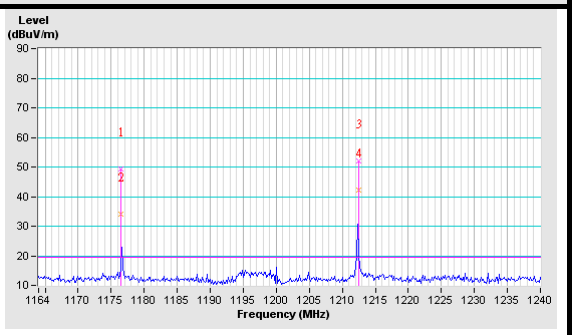


TEST MODE D (1164-1240MHz)

TERMINATED ANTENNA PORT- HORIZONTAL



TERMINATED ANTENNA PORT- VERTICAL



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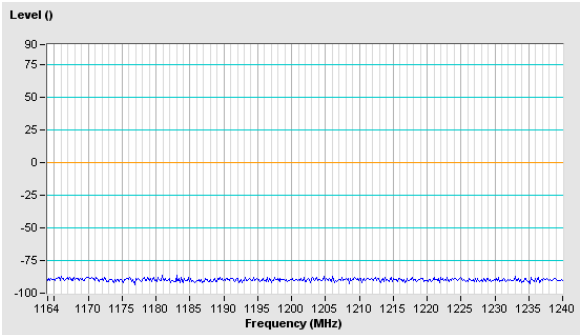
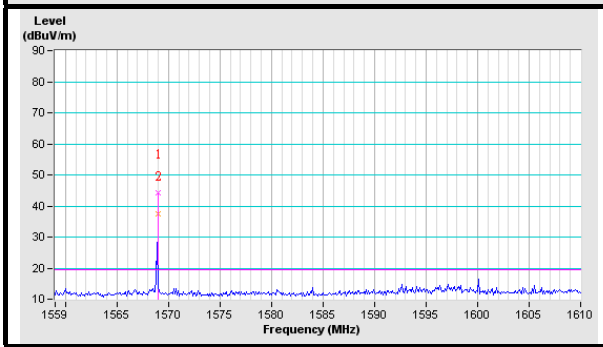
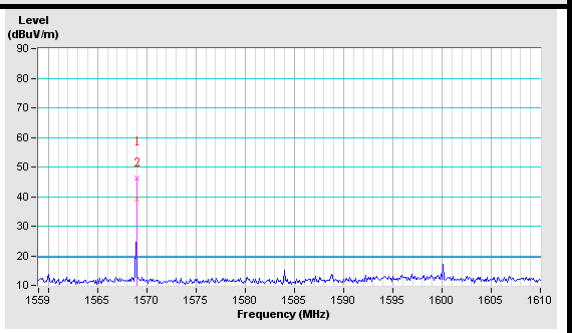


TEST MODE D (1559-1610MHz)

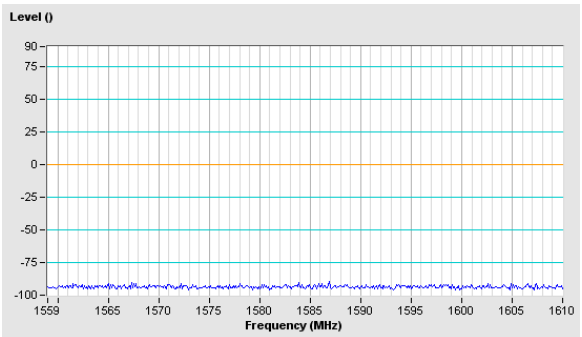
TERMINATED ANTENNA PORT- HORIZONTAL



TERMINATED ANTENNA PORT- VERTICAL

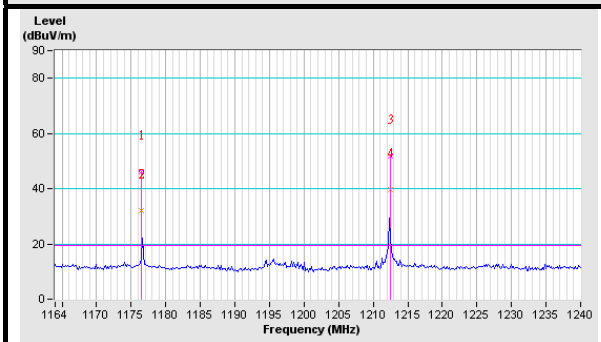


CONDUCTED ANTENNA PORT

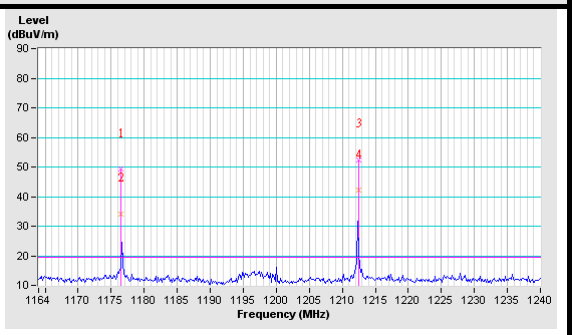


TEST MODE E (1164-1240MHz)

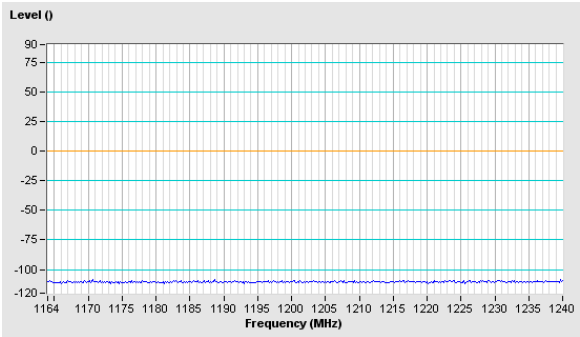
TERMINATED ANTENNA PORT- HORIZONTAL



TERMINATED ANTENNA PORT- VERTICAL

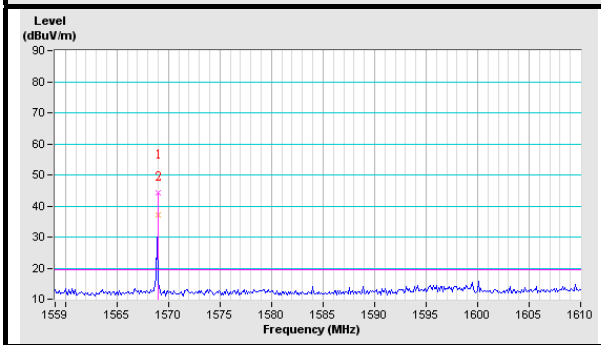


CONDUCTED ANTENNA PORT

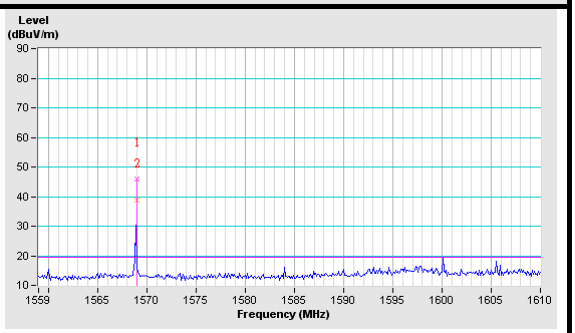


TEST MODE E (1559-1610MHz)

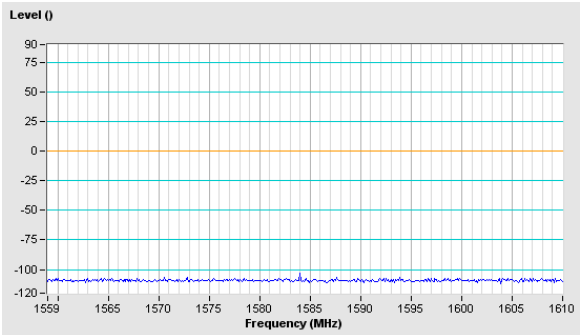
TERMINATED ANTENNA PORT- HORIZONTAL



TERMINATED ANTENNA PORT- VERTICAL

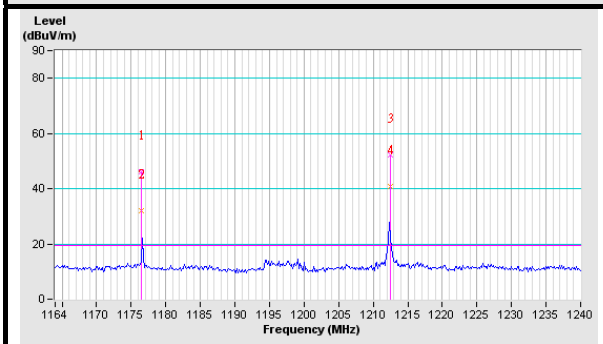


CONDUCTED ANTENNA PORT

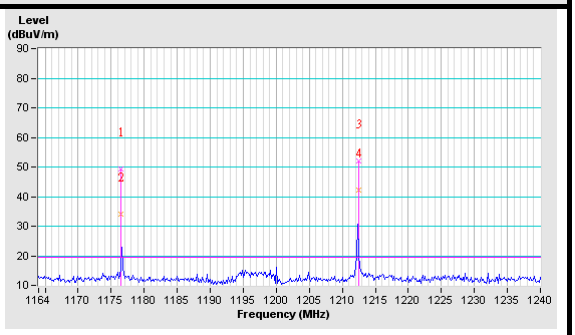


TEST MODE F (1164-1240MHz)

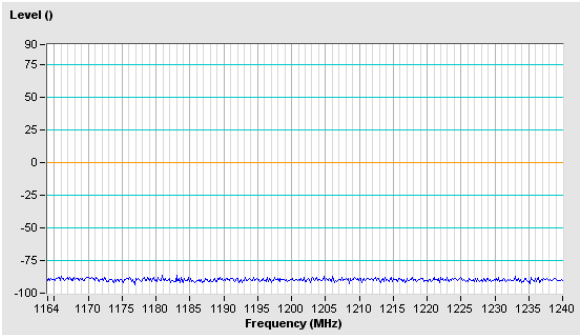
TERMINATED ANTENNA PORT- HORIZONTAL



TERMINATED ANTENNA PORT- VERTICAL

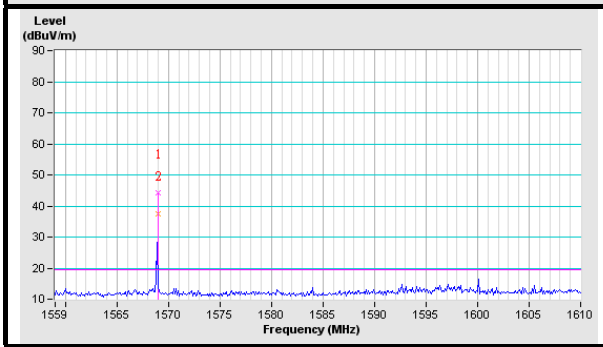


CONDUCTED ANTENNA PORT

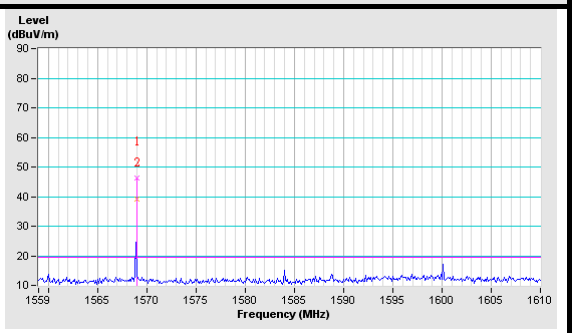


TEST MODE F (1559-1610MHz)

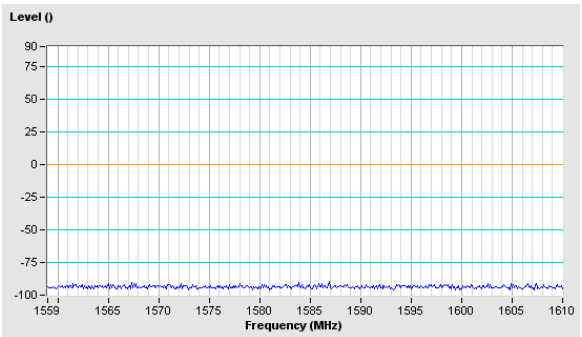
TERMINATED ANTENNA PORT- HORIZONTAL



TERMINATED ANTENNA PORT- VERTICAL



CONDUCTED ANTENNA PORT



EMISSIONS FROM NOTEBOOK

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	Above 1GHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	Peak / Average
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24 deg. C, 64%RH, 985hPa
TESTED BY	Match Tsui	**TEST MODE**	**A**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 1m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1176.50	46.15 PK	83.54	-37.39	1.12 H	242	16.34	29.81
2	1176.50	32.09 AV	63.54	-31.45	1.12 H	242	2.28	29.81
3	1212.50	52.46 PK	83.54	-31.08	1.06 H	241	22.57	29.89
4	1212.50	40.97 AV	63.54	-22.57	1.06 H	241	11.08	29.89
5	1569.00	44.56 PK	83.54	-38.98	1.00 H	286	13.81	30.75
6	1569.00	37.59 AV	63.54	-25.95	1.00 H	286	6.84	30.75

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 1m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1176.50	49.55 PK	83.54	-33.99	1.00 V	258	19.74	29.81
2	1176.50	34.27 AV	63.54	-29.27	1.00 V	258	4.46	29.81
3	1212.50	52.56 PK	83.54	-30.98	1.00 V	259	22.67	29.89
4	1212.50	42.23 AV	63.54	-21.31	1.00 V	259	12.34	29.89
5	1569.00	46.23 PK	83.54	-37.31	1.09 V	316	15.48	30.75
6	1569.00	39.24 AV	63.54	-24.30	1.09 V	316	8.49	30.75

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	Above 1GHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	Peak / Average
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24 deg. C, 64%RH, 985hPa
TESTED BY	Match Tsui	**TEST MODE**	**B**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 1m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1176.50	45.98 PK	83.54	-37.56	1.03 H	254	16.47	29.51
2	1176.50	32.04 AV	63.54	-31.50	1.03 H	254	2.53	29.51
3	1212.50	52.34 PK	83.54	-31.20	1.09 H	233	22.75	29.59
4	1212.50	40.89 AV	63.54	-22.65	1.09 H	233	11.30	29.59
5	1569.00	44.39 PK	83.54	-39.15	1.00 H	268	14.00	30.39
6	1569.00	37.30 AV	63.54	-26.24	1.00 H	268	6.91	30.39

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 1m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1176.50	49.46 PK	83.54	-34.08	1.03 V	300	19.95	29.51
2	1176.50	34.08 AV	63.54	-29.46	1.03 V	300	4.57	29.51
3	1212.50	52.01 PK	83.54	-31.53	1.04 V	284	22.42	29.59
4	1212.50	42.36 AV	63.54	-21.18	1.04 V	284	12.77	29.59
5	1569.00	46.29 PK	83.54	-37.25	1.04 V	290	15.90	30.39
6	1569.00	39.18 AV	63.54	-24.36	1.04 V	290	8.79	30.39

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	Above 1GHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	Peak / Average
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24 deg. C, 64%RH, 985hPa
TESTED BY	Match Tsui	**TEST MODE**	**C**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 1m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1176.50	46.64 PK	83.54	-36.90	1.11 H	94	16.83	29.81
2	1176.50	32.17 AV	63.54	-31.37	1.11 H	94	2.36	29.81
3	1212.50	52.24 PK	83.54	-31.30	1.01 H	92	22.35	29.89
4	1212.50	40.49 AV	63.54	-23.05	1.01 H	92	10.60	29.89
5	1569.00	44.43 PK	83.54	-39.11	1.11 H	113	13.68	30.75
6	1569.00	37.36 AV	63.54	-26.18	1.11 H	113	6.61	30.75

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 1m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1176.50	49.42 PK	83.54	-34.12	1.10 V	247	19.61	29.81
2	1176.50	34.69 AV	63.54	-28.85	1.10 V	247	4.88	29.81
3	1212.50	52.89 PK	83.54	-30.65	1.03 V	200	23.00	29.89
4	**1212.50**	**42.58 AV**	**63.54**	**-20.96**	**1.03 V**	**200**	**12.69**	**29.89**
5	1569.00	46.18 PK	83.54	-37.36	1.11 V	300	15.43	30.75
6	1569.00	39.04 AV	63.54	-24.50	1.11 V	300	8.29	30.75

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	**FREQUENCY RANGE**	Above 1GHz
MODULATION TECHNOLOGY	MOFDM	**DETECTOR FUNCTION**	Peak / Average
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	24 deg. C, 64%RH, 985hPa
TESTED BY	Match Tsui	**TEST MODE**	**D**

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 1m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1176.50	46.34 PK	83.54	-37.20	1.08 H	300	16.53	29.81
2	1176.50	32.47 AV	63.54	-31.07	1.08 H	300	2.66	29.81
3	1212.50	52.61 PK	83.54	-30.93	1.04 H	287	22.72	29.89
4	1212.50	40.98 AV	63.54	-22.56	1.04 H	287	11.09	29.89
5	1569.00	44.35 PK	83.54	-39.19	1.01 H	310	13.60	30.75
6	1569.00	37.52 AV	63.54	-26.02	1.01 H	310	6.77	30.75

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 1m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1176.50	49.81 PK	83.54	-33.73	1.01 V	233	20.00	29.81
2	1176.50	34.42 AV	63.54	-29.12	1.01 V	233	4.61	29.81
3	1212.50	52.14 PK	83.54	-31.40	1.00 V	241	22.25	29.89
4	1212.50	42.49 AV	63.54	-21.05	1.00 V	241	12.60	29.89
5	1569.00	46.38 PK	83.54	-37.16	1.08 V	290	15.63	30.75
6	1569.00	39.29 AV	63.54	-24.25	1.08 V	290	8.54	30.75

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	FREQUENCY RANGE	Above 1GHz
MODULATION TECHNOLOGY	MOFDM	DETECTOR FUNCTION	Peak / Average
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24 deg. C, 64%RH, 985hPa
TESTED BY	Match Tsui	TEST MODE	E

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 1m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1176.50	46.24 PK	83.54	-37.30	1.10 H	214	16.43	29.81
2	1176.50	32.13 AV	63.54	-31.41	1.10 H	214	2.32	29.81
3	1212.50	52.40 PK	83.54	-31.14	1.00 H	200	22.51	29.89
4	1212.50	40.67 AV	63.54	-22.87	1.00 H	200	10.78	29.89
5	1569.00	44.38 PK	83.54	-39.16	1.00 H	300	13.63	30.75
6	1569.00	37.42 AV	63.54	-26.12	1.00 H	300	6.67	30.75

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 1m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1176.50	49.45 PK	83.54	-34.09	1.01 V	247	19.64	29.81
2	1176.50	34.31 AV	63.54	-29.23	1.01 V	247	4.50	29.81
3	1212.50	52.62 PK	83.54	-30.92	1.04 V	311	22.73	29.89
4	1212.50	42.31 AV	63.54	-21.23	1.04 V	311	12.42	29.89
5	1569.00	46.19 PK	83.54	-37.35	1.11 V	299	15.44	30.75
6	1569.00	39.10 AV	63.54	-24.44	1.11 V	299	8.35	30.75

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

EUT TEST CONDITION		MEASUREMENT DETAIL	
SUB-BAND	1 + 2 + 3	FREQUENCY RANGE	Above 1GHz
MODULATION TECHNOLOGY	MOFDM	DETECTOR FUNCTION	Peak / Average
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24 deg. C, 64%RH, 985hPa
TESTED BY	Match Tsui	TEST MODE	F

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 1m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1176.50	46.18 PK	83.54	-37.36	1.00 H	311	16.37	29.81
2	1176.50	32.24 AV	63.54	-31.30	1.00 H	311	2.43	29.81
3	1212.50	52.57 PK	83.54	-30.97	1.09 H	200	22.68	29.89
4	1212.50	41.11 AV	63.54	-22.43	1.09 H	200	11.22	29.89
5	1569.00	44.46 PK	83.54	-39.08	1.00 H	296	13.71	30.75
6	1569.00	37.64 AV	63.54	-25.90	1.00 H	296	6.89	30.75

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 1m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1176.50	49.59 PK	83.54	-33.95	1.04 V	266	19.78	29.81
2	1176.50	34.24 AV	63.54	-29.30	1.04 V	266	4.43	29.81
3	1212.50	52.24 PK	83.54	-31.30	1.00 V	241	22.35	29.89
4	1212.50	42.44 AV	63.54	-21.10	1.00 V	241	12.55	29.89
5	1569.00	46.34 PK	83.54	-37.20	1.04 V	280	15.59	30.75
6	1569.00	39.24 AV	63.54	-24.30	1.04 V	280	8.49	30.75

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

4.4 UWB BANDWIDTH MEASUREMENT

4.4.1 LIMITS OF UWB BANDWIDTH MEASUREMENT

The UWB bandwidth of a UWB system operating under the provisions of this section must be contained between 3100MHz and 10,600MHz.

4.4.2 INSTRUMENT SETUP VALUE AND MEASUREMENT DISTANCE

FREQUENCY RANGE	RESOLUTION BANDWIDTH	VIDEO BANDWIDTH	DETECTOR	MEASUREMENT DISTANCE
3,100 ~ 10,600	10MHz	10MHz	Peak	3 meters

4.4.3 TEST INSTRUMENT

Same as Item 4.2.3

4.4.4 TEST PROCEDURE

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The Spectrum Analyzer system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. The UWB Bandwidth is measured at the 10dB point (F_L, F_H).

4.4.5 DEVIATION FROM TEST STANDARD

No deviation

4.4.6 TEST SETUP

Same as Item 4.2.6

4.4.7 EUT OPERATING CONDITIONS

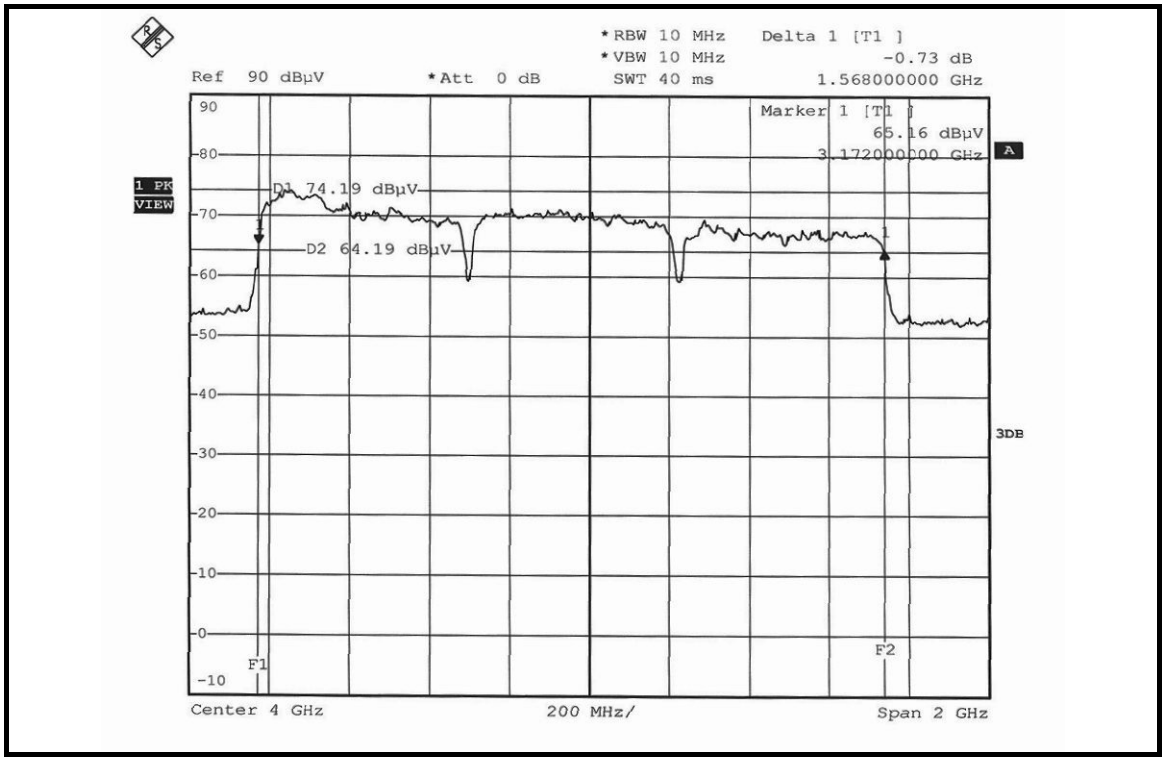
The software provided by client to enable the EUT under transmission condition continuously.

4.4.8 TEST RESULTS

SUB-BAND	1 + 2 + 3	INPUT POWER (SYSTEM)	120Vac, 60 Hz
MODULATION TECHNOLOGY	MOFDM	ENVIRONMENTAL CONDITIONS	24 deg.C, 64 %RH, 991hPa
TESTED BY	Match Tsui	TEST MODE	A

F_L (MHz)	F_H (MHz)	$F_C=(F_L+F_H)/2$ (MHz)	LIMIT (MHz)	PASS/FAIL
3172.00	4740.00	3956.00	Between 3100.00 ~ 10600.00	PASS

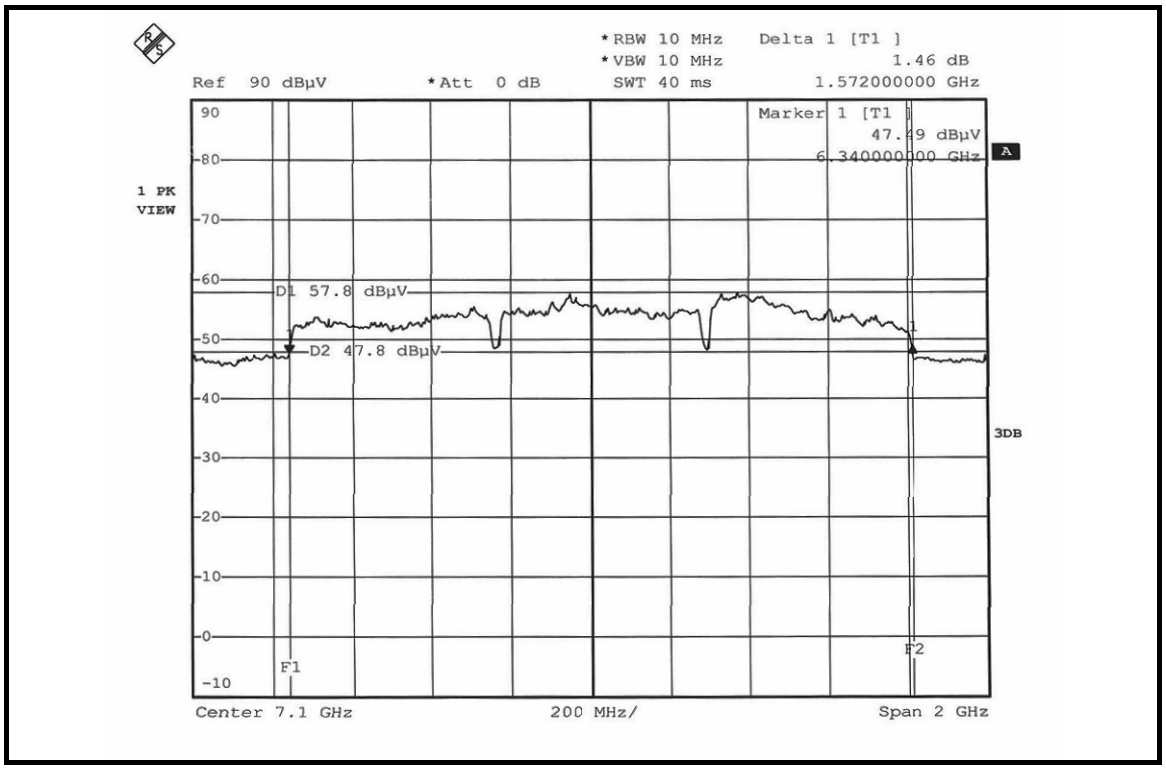
UWB Bandwidth = F_H - F_L = 1568MHz



SUB-BAND	1 + 2 + 3	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
MODULATION TECHNOLOGY	MOFDM	**ENVIRONMENTAL CONDITIONS**	24 deg.C, 64 %RH, 991hPa
TESTED BY	Match Tsui	**TEST MODE**	**B**

F_L (MHz)	F_H (MHz)	$F_C=(F_L+F_H)/2$ (MHz)	LIMIT (MHz)	PASS/FAIL
6340.00	7912.00	7126.00	Between 3100.00 ~ 10600.00	PASS

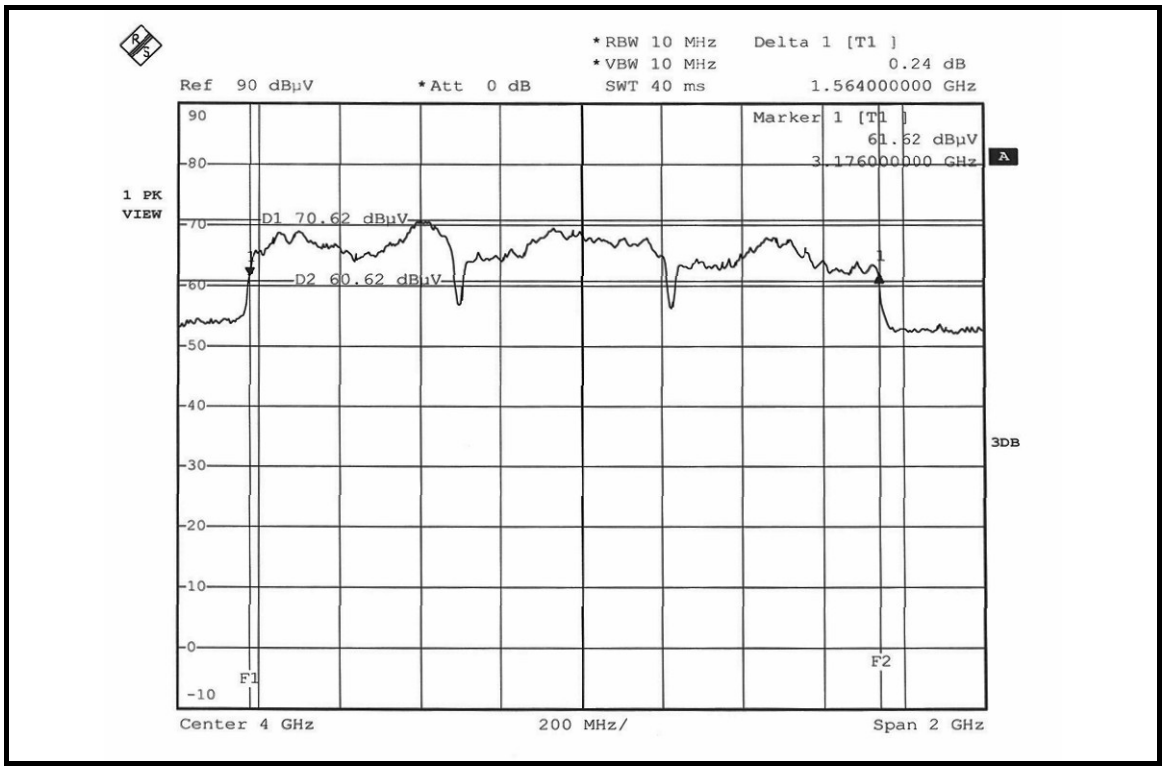
UWB Bandwidth = F_H - F_L = 1572MHz



SUB-BAND	1 + 2 + 3	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
MODULATION TECHNOLOGY	MOFDM	**ENVIRONMENTAL CONDITIONS**	24 deg.C, 64 %RH, 991hPa
TESTED BY	Match Tsui	**TEST MODE**	**C**

F_L (MHz)	F_H (MHz)	$F_C=(F_L+F_H)/2$ (MHz)	LIMIT (MHz)	PASS/FAIL
3176.00	4740.00	3958.00	Between 3100.00 ~ 10600.00	PASS

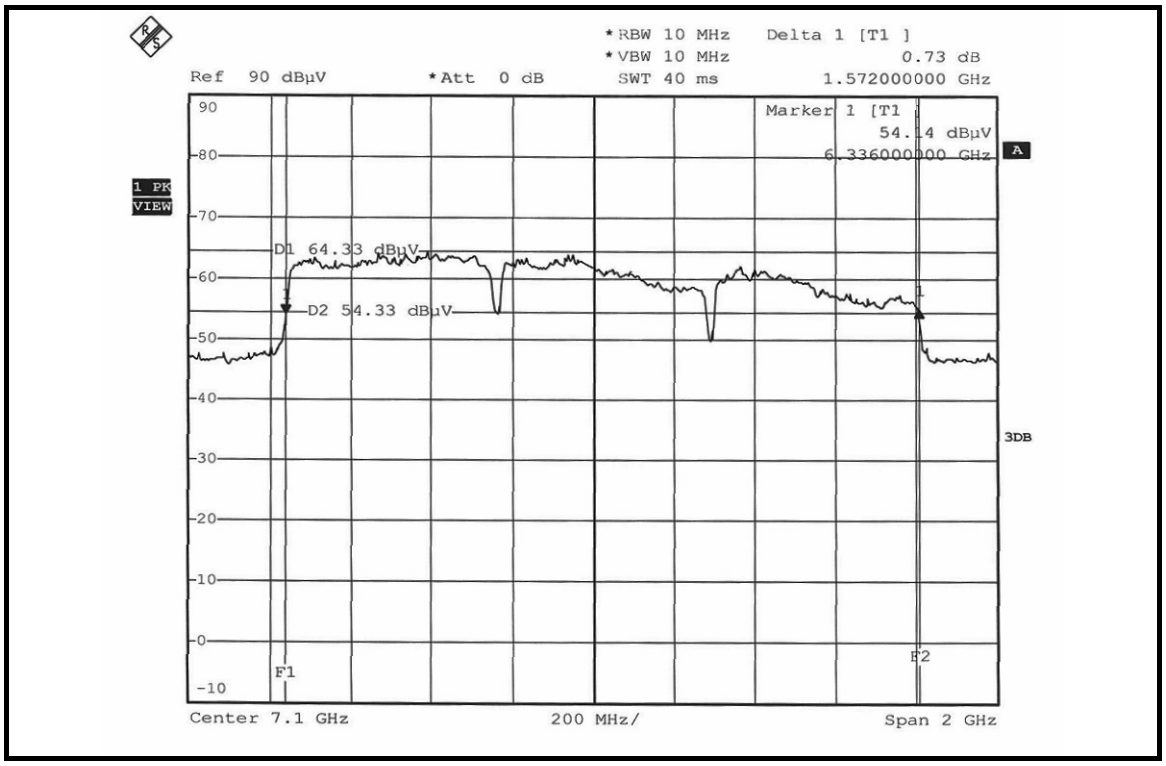
UWB Bandwidth = F_H - F_L = 1564MHz



SUB-BAND	1 + 2 + 3	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
MODULATION TECHNOLOGY	MOFDM	**ENVIRONMENTAL CONDITIONS**	24 deg.C, 64 %RH, 991hPa
TESTED BY	Match Tsui	**TEST MODE**	**D**

F_L (MHz)	F_H (MHz)	$F_C=(F_L+F_H)/2$ (MHz)	LIMIT (MHz)	PASS/FAIL
6336.00	7908.00	7122.00	Between 3100.00 ~ 10600.00	PASS

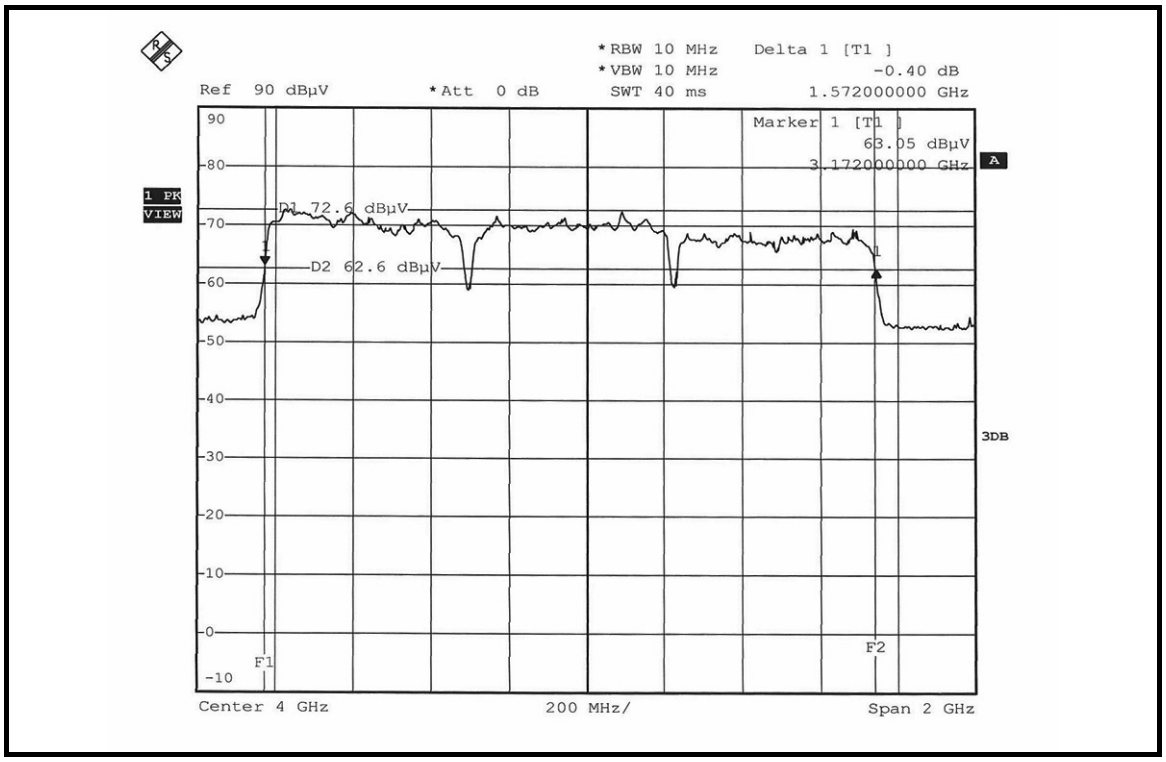
UWB Bandwidth = F_H - F_L = 1572MHz



SUB-BAND	1 + 2 + 3	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
MODULATION TECHNOLOGY	MOFDM	**ENVIRONMENTAL CONDITIONS**	24 deg.C, 64 %RH, 991hPa
TESTED BY	Match Tsui	**TEST MODE**	**E**

F_L (MHz)	F_H (MHz)	$F_C=(F_L+F_H)/2$ (MHz)	LIMIT (MHz)	PASS/FAIL
3172.00	4744.00	3958.00	Between 3100.00 ~ 10600.00	PASS

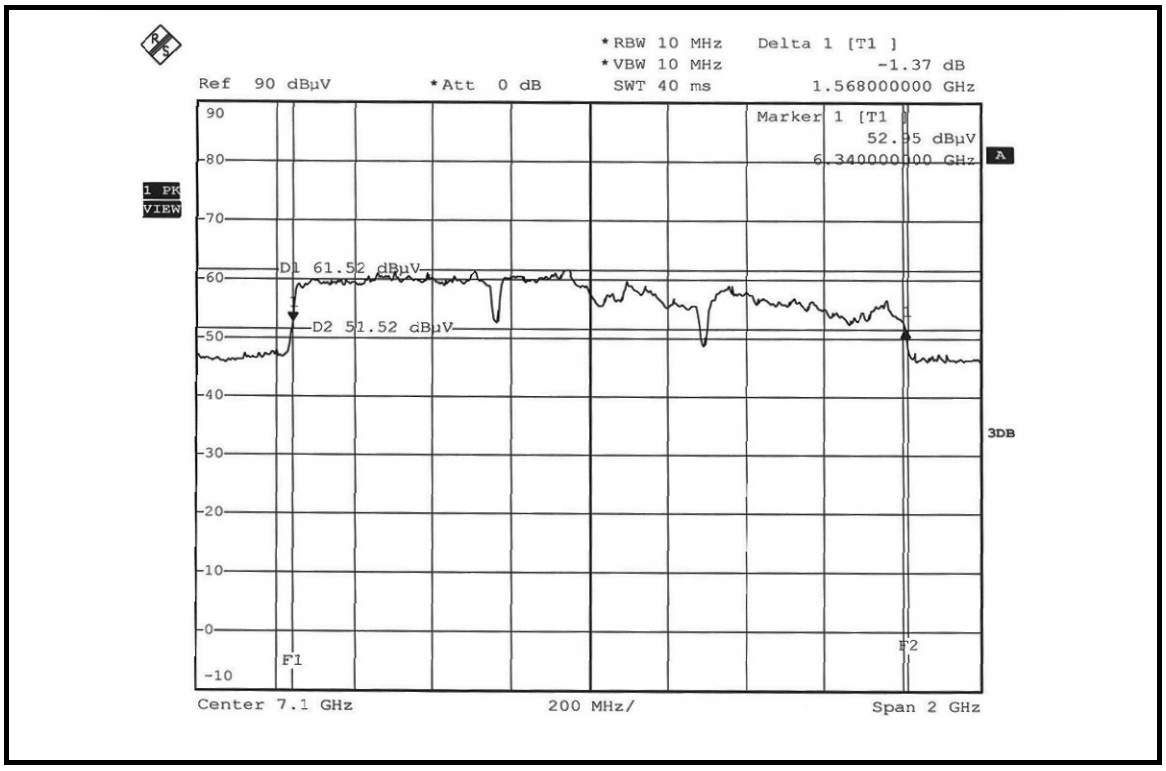
UWB Bandwidth = F_H - F_L = 1572MHz



SUB-BAND	1 + 2 + 3	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
MODULATION TECHNOLOGY	MOFDM	**ENVIRONMENTAL CONDITIONS**	24 deg.C, 64 %RH, 991hPa
TESTED BY	Match Tsui	**TEST MODE**	**F**

F_L (MHz)	F_H (MHz)	$F_C=(F_L+F_H)/2$ (MHz)	LIMIT (MHz)	PASS/FAIL
6340.00	7908.00	7124.00	Between 3100.00 ~ 10600.00	PASS

UWB Bandwidth = F_H - F_L = 1568MHz



4.5 PEAK EMISSION WITHIN A 50MHz BANDWIDTH

4.5.1 LIMITS OF PEAK EMISSION

The peak emission measurement is acceptable to use the resolution bandwidth other than the 50MHz, which is indicated in 47CFR Part 15, Subpart F. The resolution bandwidth was set to 10MHz in this measurement. It has been determined to have an actual impulse response bandwidth of 9.4MHz (3dBcBW). Therefore the limit should be reduced 20Log(9.4 / 50). The video bandwidth was also set to 10MHz. And the measurement was centered on the frequency at which the highest radiated emission occurred.

The Maximum Peak Output Power Measurement is 0dBm(RBW=50MHz)
If a resolution bandwidth other than 50 MHz is Employed, the peak EIRP limit shall be 20 log (RBW/50) dBm where RBW is the resolution bandwidth in megahertz that is employed. The resolution bandwidth used to make the peak measurement was 9.4 MHz, resulting in a limit of -14.52dBm.

This may be converted to a peak field strength level at 3 meters using
E(dBuV/m) = P(dBm EIRP) + 95.20 = -14.52 + 95.20 = 80.68.

4.5.2 INSTRUMENT SETUP VALUE AND MEASUREMENT DISTANCE

RADIATED EMISSIONS 15.519 (e):

FREQUENCY RANGE	RESOLUTION BANDWIDTH	VIDEO BANDWIDTH	DETECTOR	MEASUREMENT DISTANCE
3,100 ~ 10,600	10MHz	10MHz	*Peak	3 meters

NOTE: *reference The Evolution of Modern UWB Technology

4.5.3 TEST INSTRUMENTS

Same as 4.2.3.

4.5.4 TEST PROCEDURE

Same as 4.2.4.

4.5.5 DEVIATION FROM TEST STANDARD

No deviation.

4.5.6 TEST SETUP

Same as Item 4.2.6.

4.5.7 EUT OPERATING CONDITIONS

Same as 4.1.6.

4.5.8 TEST RESULTS

MODULATION TECHNOLOGY	MOFDM	ENVIRONMENTAL CONDITIONS	24 deg. C, 64 %RH, 981hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Match Tsui
TEST MODE	A		

ANTENNA POLARITY & TEST DISTANCE AT 3 M (HORIZONAL)								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (Db/m)
1	3524.00	70.39 PK	80.68	-10.29	1.34 H	0	34.64	35.75
2	3876.00	72.50 PK	80.68	-8.18	1.34 H	0	35.70	36.81
3	4400.00	70.28 PK	80.68	-10.40	1.34 H	0	31.87	38.41
ANTENNA POLARITY & TEST DISTANCE AT 3 M (VERTICAL)								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3236.00	74.97 PK	80.68	-5.71	1.46 V	12	39.74	35.23
2	3804.00	73.51 PK	80.68	-7.17	1.46 V	19	36.95	36.55
3	4288.00	73.28 PK	80.68	-7.40	1.46 V	19	35.23	38.05

MODULATION TECHNOLOGY	MOFDM	ENVIRONMENTAL CONDITIONS	24 deg. C, 64 %RH, 981hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Match Tsui
TEST MODE	B		

ANTENNA POLARITY & TEST DISTANCE AT 3 M (HORIZONAL)								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (Db/m)
1	6808.00	65.84 PK	80.68	-14.84	1.37 H	19	21.29	44.55
2	7048.00	68.70 PK	80.68	-11.98	1.37 H	19	23.35	45.35
3	7472.00	69.65 PK	80.68	-11.03	1.37 H	19	23.51	46.14
ANTENNA POLARITY & TEST DISTANCE AT 3 M (VERTICAL)								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	6408.00	67.97 PK	80.68	-12.71	1.47 V	19	25.00	42.97
2	7056.00	67.85 PK	80.68	-12.83	1.47 V	19	22.49	45.36
3	7480.00	68.20 PK	80.68	-12.48	1.47 V	19	22.04	46.16

MODULATION TECHNOLOGY	MOFDM	**ENVIRONMENTAL CONDITIONS**	24 deg. C, 64 %RH, 981hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Match Tsui
TEST MODE	**C**		

ANTENNA POLARITY & TEST DISTANCE AT 3 M (HORIZONAL)								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (Db/m)
1	3600.00	72.20 PK	80.68	-8.48	1.34 H	0	36.26	35.94
2	3932.00	72.06 PK	80.68	-8.62	1.34 H	0	35.11	36.95
3	4480.00	72.50 PK	80.68	-8.18	1.34 H	0	33.73	38.76
ANTENNA POLARITY & TEST DISTANCE AT 3 M (VERTICAL)								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3636.00	66.41 PK	80.68	-14.27	1.01 V	79	30.35	36.06
2	3932.00	66.42 PK	80.68	-14.26	1.01 V	79	29.46	36.95
3	4464.00	70.17 PK	80.68	-10.51	1.01 V	79	31.48	38.69

MODULATION TECHNOLOGY	MOFDM	**ENVIRONMENTAL CONDITIONS**	24 deg. C, 64 %RH, 981hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Match Tsui
TEST MODE	**D**		

ANTENNA POLARITY & TEST DISTANCE AT 3 M (HORIZONAL)								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (Db/m)
1	6692.00	74.35 PK	80.68	-6.33	1.18 H	274	30.19	44.15
2	**7036.00**	**75.51 PK**	**80.68**	**-5.17**	**1.18 H**	**274**	**30.17**	**45.34**
3	7464.00	73.82 PK	80.68	-6.86	1.18 H	274	27.69	46.13
ANTENNA POLARITY & TEST DISTANCE AT 3 M (VERTICAL)								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	6804.00	69.08 PK	80.68	-11.60	1.48 V	19	24.56	44.53
2	6900.00	69.51 PK	80.68	-11.17	1.48 V	19	24.54	44.97
3	7584.00	67.95 PK	80.68	-12.73	1.48 V	19	21.53	46.42

MODULATION TECHNOLOGY	MOFDM	ENVIRONMENTAL CONDITIONS	24 deg. C, 64 %RH, 981hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Match Tsui
TEST MODE	E		

ANTENNA POLARITY & TEST DISTANCE AT 3 M (HORIZONAL)								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (Db/m)
1	3240.00	70.74 PK	80.68	-9.94	1.43 H	19	35.50	35.24
2	3768.00	68.32 PK	80.68	-12.36	1.43 H	19	31.87	36.45
3	4424.00	67.95 PK	80.68	-12.73	1.43 H	19	29.43	38.52
ANTENNA POLARITY & TEST DISTANCE AT 3 M (VERTICAL)								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3240.00	73.39 PK	80.68	-7.29	1.23 V	19	38.15	35.24
2	**4092.00**	**75.79 PK**	**80.68**	**-4.89**	**1.23 V**	**19**	**38.16**	**37.63**
3	4684.00	74.50 PK	80.68	-6.18	1.23 V	19	35.33	39.17

MODULATION TECHNOLOGY	MOFDM	ENVIRONMENTAL CONDITIONS	24 deg. C, 64 %RH, 981hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Match Tsui
TEST MODE	F		

ANTENNA POLARITY & TEST DISTANCE AT 3 M (HORIZONAL)								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (Db/m)
1	6592.00	64.97 PK	80.68	-15.71	1.00 H	25	21.18	43.79
2	7048.00	67.20 PK	80.68	-13.48	1.00 H	56	21.85	45.35
3	7452.00	65.93 PK	80.68	-14.75	1.00 H	0	19.82	46.11
ANTENNA POLARITY & TEST DISTANCE AT 3 M (VERTICAL)								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	6808.00	71.76 PK	80.68	-8.92	1.62 V	0	27.21	44.55
2	7048.00	72.67 PK	80.68	-8.01	1.62 V	0	27.32	45.35
3	7456.00	70.85 PK	80.68	-9.83	1.62 V	0	24.73	46.12

4.6 ANTENNA REQUIREMENT

4.6.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

4.6.2 ANTENNA CONNECTED CONSTRUCTION

The antennas used in this product are Monopole antenna with I-PEX connector, Chip antenna with I-PEX connector and Inverted F antenna without antenna connector. The maximum Gain of the antenna is 4.87dBi.

5. PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

6. INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025

USA	FCC, NVLAP
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA , CSA
R.O.C.	TAF, BSMI, NCC
Netherlands	Telefication
Singapore	GOST-ASIA(MOU)
Russia	CERTIS(MOU)

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml.
If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3185050

Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.

7. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

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